ON SCENE

U.S. Department of Transportation

United States Coast Guard

1/89

COMDTPUB P16100.4

ON SCENE

Table of Contents

Letters to the Editor 1
A Spirit of Cooperation 2
Rescue and Survival Systems Notes 5
National SAR School Moving to RTC Yorktown 6
School Schedules for FY 90 8
Lloyd Bermuda Sinking 9
Attention EMTs 11
44 MLB Standardization Team Update 12
UTB Standardization Team 15
Coast Guard Approval – What Does It Mean 16
Soft Lee Cloths 19
Pacific Rescue 22
Flare Cases: Urgent, Common, Difficult...Frustrating 23
Precoms and Excoms – They're Critical to SAR 27
Air Station SITKA Rescues Two Men Stranded on Glacier 28
Now, Set the Helo Recovery Bill 30
EPIRB 101 33
Status Report on Emergency Beacons 34
M.A.R.I.S. 37
Coast Guard SAR "Bosses" Meet in Virginia 41
Responding to Mariner's Request For Information 42
Hanging On to Safety 44

*****

RADM Robert T. Nelson
Chief, Office of Navigation Safety and Waterway Services

CAPT A. J. PETTIT
Chief, Search and Rescue Division

CDR R. J. DEIN
Chief, Facilities Branch, Editor

LT P. M. KEANE
Assistant Editor

Mrs. Willie Mae Foster
Ms. Mary Abraham
Ms.Teresa Stevenson
Typists

COVER: Cliff rescue operations with Golden Gate National Park Service personnel using the helicopter rescue basket. Story on page 2

ON SCENE is a quarterly, authorized, special interest publication, produced by the Office of Navigation, Safety and Waterway Services for members of the U.S. Coast Guard and the SAR community. Editorial content is not to be considered as authority for official action, nor as record material. Individual views and opinions expressed do not necessarily reflect those of the Department of Transportation or the U. S. Coast Guard.

Letters to the Editor

Dear On Scene Editor:

Thanks to the staff at CGDI (osr) for their great debrief and Lessons Learned on the 44' MLB overdue case in issue 3/88. It's always good to share information like that, and I think many boat drivers will learn from that experience.

I suggest that we in the surface community make this a ritual, as the aviators have. One of the things I enjoy about working in the district OPCEN is that I see all the Aviation Mishap Reports. Now, you cynics in the audience are nodding your heads and saying, "Yes, all true Boat People like to read about it when an Airedale tells a good one on himself." And while I, as a card-carrying "Blackshoe", will laughingly agree with that, in my serious moments I admire their system of sharing valuable lessons learned.

I remember one message particularly well. A fairly new pilot had made a mistake which was covered in the pilot's Bible, the Dash One; however, he didn't consult the Bible, and thus didn't react the way he should have, and thus caused some extra damage. Luckily it turned out to be more embarrassing than dangerous, and a Class D Report went out. The CO's paragraph said something like, "This mishap serves to remind us all that there are no new games, only new players. . . ."

Think for a moment about the makeup of the Coast Guard (and the other military services). A majority of our people, and especially the surface operators in the field, are young men and women just out of high school who are just beginning to learn about life as independent human beings, plus many of the follow ing items: how to tell which end of that swab gets applied to the deck; how to strap into your lifeboat and avoid falling overboard; and six months later, how to drive that lifeboat without letting your crew fall overboard; and then, how to board a vessel and check it for compliance with a myriad of laws. We have fine training programs for coxswains and OOD's, but at stations, the SAR caseload is drop ping steadily, so there's less hands-on learning being done. In this environment, isn't it a crime not to share information about what not to do?

Obviously, mishap reports can't eliminate errors, since the new pilot in the example above -- a New Player, just as many of the coxswains and OOD's I've mentioned are New Players -- hadn't seen a report on that particular topic yet. However, their mere existence reminds people to think about safety. Their benefits are many. And the only drawback I can see is the slight embarrassment that may be perceived by the person and unit submitting the report, which isn't a good reason not to do it.

What do the rest of you think?

LT Pete Marsh, D13 (opc)

A SPIRIT OF SAR COOPERATION

By: Steve Gazzano; District Park Ranger, Golden Gate National Recreation Area, and LT Roger Gayman, U. S. Coast Guard.

The Golden Gate National Recreation Area (GGNRA) encompasses some of the most picturesque California coastline. The recreation area is the largest urban park in the world, attracting over 24 million visitors annually. The park is located in three coastal counties: Marin, San Francisco, and San Mateo. Its North Pacific Coast landscape includes sandy beaches, rugged headlands and cliffs, grasslands, forests, streams, estuaries, lakes and marshes extending from Tomales Bay to the communities of San Francisco and Pacifica.

The park's proximity to a major metropolitan area, coupled with a treacherous coastline provides the ideal situation for Search and Rescue (SAR) cases to occur. Incidents vary from overturned vessels to technical cliff rescues involving visitors injured or stranded on coastal cliffs, to bathers swept out sea by strong currents. Many of these rescues require the cooperative efforts of various agencies to be success ful. Through the cooperation of the United States Coast Guard and the National Park Service, a valuable working relationship has evolved and many innovative techniques have been established to perform rescues throughout the GGNRA.

The National Park Service maintains three inflatable rescue boats (IRBs). They are staged out of Stinson Beach (north of the Golden Gate), China Beach (located at the entrance to the Golden Gate chan nel), and Aquatic Park (in the San Francisco Bay). These vessels patrol and respond to emergencies along the 28 miles of coastline within the park. The IRBs are used for recovering victims inside the surf line and around offshore rocks where it is too dangerous for hard hull craft to venture. The IRBs also respond to victim searches, assist Coast Guard Station Fort Point in recovering bridge jumpers and evacuate victims from pocket beaches.

Rangers and lifeguards are also responsible for cliff rescues, law enforcement, emergency medical services, lifeguarding, wild land fire suppression and resource management.

Coast Guard Air Station San Francisco's (CGAS SFO) commissioning predates World War II. The air station maintains a twenty-four hour SAR alert; extending from Point Conception to Fort Bragg. Its current complement is three large HH-3F twin-turbine amphibious helicopters. The HH-3F is an extremely capable rescue resource with multi-mission capability beyond SAR, which includes: maritime and overland law enforcement, aids to navigation heavy lift support, pollution patrol, and various military missions including logistics. The air station is scheduled to receive the even more capable HH-60J helicopter in 1991.

In the mid 1970's, rangers from the GGNRA made a request of CGAS SFO officers to provide an orientation of their helicopters. After several orientations, an appreciation was developed of each other's level of SAR expertise. This was highlighted when a park visitor was swept from a popular fishing rock by a rogue wave just north of Muir Beach. Because of the trust that had developed between the two agencies the victim was recovered by a national park IRB crew while a Coast Guard helicopter landed on the water nearby. Once the victim was away from the rock, the boat operator maneuvered the IRB into the cargo door opening of the helicop ter. After a short flight, the victim was unloaded and transferred to a medical facility.

In the early 1980's, both agencies agreed to conduct helicopter to IRB hoist training. Initial attempts to conduct over-water helicopter hoist training to an IRB were difficult. This was due to the IRB's inability to maintain a constant heading because of the helicopter's extreme rotor wash as it maneuvered into position to lower the basket or litter over the

Rescue basket nearing the National park Service inflatable rescue boat as the helicopter air taxis forward.

boat.

After discussions between the Coast Guard and Park Service crews and various experiments, new methods were developed for over-water helicopter hoists to an IRB. These techniques involved reversing the normal maneuvers of the two crafts, and created the "IRB Hoisting Method."

To create the safest possible conditions for IRB hoists, the helicopter maintains an upwind heading with a 5 to 10 knot forward air taxi. The IRB takes a four o'clock position relative to the helicopter hoist operator while matching the speed of the helicopter. The boat operator then maneuvers under the helicopter as the basket or litter is lowered. With a buffeting rotor wash of over 100 miles per hour, the IRB crew uses the lowering rescue device as a reference point while going through the curtain of turbulence. The basket is lowered to hit the port pontoon of the boat to eliminate the static charge and then is pulled into the boat where the transfer of the victim takes place. The result is a far safer and more expeditious hoisting evolution for victim and rescuers.

The resulting training has been an exceptional experience for both GGNRA and CGAS SFO personnel. It gave the rangers and lifeguards an understanding of the helicopter's capability and operating procedures. It also gave the Coast Guard crewmen the opportunity to learn a new hoisting technique and perfect it with extensive training. CGAS SFO has since adapted its over-water helicopter hoist training with some Coast Guard small boats to incorporate this principle.

Ditching a helicopter in open seas is one of the worst possible calamities facing a helicopter crew. To prepare air crewmen for this potential disaster, the Coast Guard mandates yearly in-water training for all personnel involved with helicopter operations. CGAS SFO's annual wet drills at the GGNRA's China Beach, overlooking the Golden Gate Bridge and a rough Pacific Ocean, trains CGAS SFO air crewmen how to face this emergency in actual open sea conditions. CGAS SFO rescue swimmers instruct personnel on the deployment and use of the rescue raft and personal survival equipment carried in the helicopter. GGNRA's lifeguards supplement this training with a lecture on rip currents and self rescue in open waters. Training by rangers includes a discussion of attitudes toward survival and sharing of SAR perspectives. The remainder of the day has evolved into an annual picnic where GGNRA and CGAS SFO personnel can meet one another informally.

The high bluffs overlooking the Golden Gate Bridge and beyond attract unwary visitors who are periodically stranded on the cliff faces. Various cliff rescue drills have been staged with CGAS SFO providing helicopter support to hoist GGNRA personnel off precarious ledges for training. GGNRA rangers have also instructed CGAS SFO personnel in cliff rescue techniques from hangar rafters at CGAS SFO. This has allowed multi-agency SAR evolutions to proceed smoothly in and around cliffs.

The recent addition of rescue swimmers as Coast Guard helicopter crewmen, made area peculiar training in the waters off the GGNRA desirable. A GGNRA ranger took the initiative by offering this training to CGAS SFO rescue swimmers. Several rescue swimmers have received special in-water training from GGNRA lifeguards on surf rescues (including the use of floatation devices), sea cave rescues, rescues from coastal cliffs and wash rocks, water entry from heights, surf dynamics and IRB operations. This training broadens the rescue swimmer's expertise and provides the swimmers themselves with an extra safety margin in a tight situation.

Hoist operator's view as a "victim" is being retrieved from the deck of the National Park Service inflatable rescue boat.

CGAS SFO has provided area familiarization/photo flights for supervisory ranger personnel of GGNRA to offer them an expanded perspective of the park from the air.

CGAS SFO has designated a unique VHF/FM preset radio frequency in its helicopters for direct communication with GGNRA personnel during rescues. The GGNRA rangers are also able to request the Coast Guard helicopter directly from CGAS SFO without going through the local emergency operator. This results in a direct communications link for immediate response, avoiding unnecessary delays and a possible faulty relay of information by local emergency operators.

Both the GGNRA and CGAS SFO have rescue gear uniquely designed for particular SAR applica tions. Periodically, one agency is able to provide the other with equipment or personnel to repair the other's gear.

A high level of expertise in mutual SAR cases has resulted from the professional alliance between these two federal agencies. It is refreshing to see two government agencies working closely together to perform a lifesaving act. The public benefits regardless of the type or magnitude of the disaster, for cooperation is in itself a success.

Our special thanks to Coast Guard Captain Paul Busick, Commanders Robert Gravino and Terry Cross, and Chief Park Ranger Gil Soper who have given their unwavering support, making this alliance possible.

About the Authors: Steven Gazzano is a National Park Ranger at GGNRA where he serves as the Ocean District Ranger. He has been involved in technical coastal cliff rescue and aquatic operations for the past 11 years. LT Roger Gayman is the assistant aeronau tical engineering officer and an instructor pilot at CGAS San Francisco, CA. His involvement with lifesaving began in 1971 as a seasonal ocean lifeguard in San Diego, CA. He was involved in ocean, river, and cliff rescues from Ocean Beach to La Jolla. In 197 he began work as a permanent ocean lifeguard in San Diego. In 1980, he entered the USCG Officer Candidate School and commissioned an ensign in May 1980. He received a USCG Aviator designation in July 1981. His first duty flight assignment was CGAS Astoria, Oregon from 1981 to 1986. In 1986 he was transferred to CGAS San Francisco. He is a 1975 graduate of the University of California, Irvine. He is also a certified EMT. All photos by Rob McCloud, EMT-C

RESCUE AND SURVIVAL SYSTEMS NOTES

CG-P1A DEWATERING PUMP KIT

BY: CWO Steve Seybold

COMDTNOTE 10470 of 25 January 1989 established a requirement to modify all model CG-P1 dewatering pump kits which have been placed into service.

The kit includes the following improvements:

- Increased stability on deck using high contact area foot pads and a low profile fuel tank.
- Improved reliability with the addition of a visible in-line fuel filter, non-collapsing fuel line and an improved fuel tank vent.
- A centered lifting handle increases mobility.
- Improved suction hose connection.
- A larger (11 x 14 inches), simplified instruction card.

Units may order modification kits for their pumps from SCOT Division of Ardox Corporation, 6337 Western Road, P. O. Box 286, Cedarburg, WI 53012. Specify SCOT part number 3216 K29. Cost per kit is $58.00, freight prepaid.

With each pump kit ordered, Supply Center Brooklyn will supply a modification kit until their shelf stock of pumps is exhausted. The SUPCEN will include these modifications in future acquisitions. Whether your order is filled from current stock or newly acquired stock, rest assured you will receive either the kit or an already modified pump. You must, however, order modification kits from the manufacturer for pumps you currently have in service.

New National Stock Numbers have been assigned to the dewatering pump kit and some support parts. It will be approximately six to eight months before the support parts are available at SUPCEN Brooklyn. Support parts may be ordered from SCOT Division of Ardox Corporation until available in the supply system.

NOMENCLATURE	PART NUMBER	NSN
CG-P1A Dewatering Pump Kit	3216K30	4320-01-295-0544
Instruction Card	061.000.261	7610-01-290-3915
Fuel Tank Assembly	118.000.426	2910-01-291-8394
Fuel Filter Assembly	118.000.437	4330-01-289-7333
Fuel Tank Cap W/Vent	105.000.548	2910-01-289-7332

BENESUG MAY SAVE TIME

COMDTNOTE 10470 of 23 March 1988 provided instructions for modifying the current boat crew safety belt buckle to prevent premature release in rough weather. Part of these instructions included gluing a piece of hook fastener tape (Velcro) to the buckle release tab. On occasion, this tape may become loose due to exposure to the elements.

A Beneficial Suggestion recently submitted by BM2 Michael P. LEAVITT from CG Station Umpqua River provides an alternative method for attachment of the tape.

His suggestion involves using two 1/8 inch rivets to provide additional security to the tape attachment. Once the tape is glued in place, the rivets are placed in two corners of the located diagonally across from each other. The rivets are out of the way and do not affect the operation of the buckle.

If you have had problems keeping the hook tape attached to the buckle release tab, you may wish to try PO LEAVITT's idea. It's optional and may cut down on your maintenance and repair time.

BOAT SAFETY BELT FOR 41' UTB

A Beneficial Suggestion submitted by BM2 David J. WORTHLEY and MK1 Robert J. WEST of CG Station Bellingham involving the use of a boat safety belt aboard the 41' UTB was recently approved. The belt is worn about the waist and attached to the boat's rail.

The use of such a belt ensures the safety of personnel working on the bow of the boat during such operations as rigging the fire monitor, bow lookout and watch during low visibility conditions, weighing anchor, and personnel transfer from boat to boat. As crewmembers are well aware, under such conditions you must now hold on with one hand and work with the other. Using the belt will allow the use of both hands and the peace of mind that if you do fall over board you will still be attached to the boat and clear of the props.

Two of the belts will be added to the 41' UTB outfit list and a stowage location will be determined. Commandant (G-NRS) will attempt to fund the belts and provide them to the stations. The belt is available through the National Stock System (4240-00-973-0157) at a cost of $75.00 each.

NATIONAL SAR SCHOOL MOVING TO RTC YORKTOWN

By LT Richard R. Schaefer, G-NRS-1

After 23 years and over 10,000 graduates, the National Search and Rescue School is moving. It is scheduled to move in June from Training Center New York on Governors Island, to it's new home at Reserve Training Center Yorktown, Virginia. The National SAR School will be located in Hamilton Hall (rm 214). It will be a part of the Operations Training Branch along with the National Aids to Navigation School, Officer Candidate School, Operations School (Boatswains Mate, Quartermaster and Radarman Courses), Maritime Law Enforcement School and Recruiting School.

The move will result in many benefits for the National SAR School including:

- Collocation with like schools
- Educational specialists available to school staff
- Proximity to Langley AFB, Air Land Forces Application (ALFA) Agency, (combat SAR development)
- Reduced costs for student logistics

- Ease of logistics and scheduling for foreign students
- For Governors Island, the continued disestablishment of the training center means relief in housing and BOQ burden, and gains in space for remaining commands.

The SAR School will experience a reduction of space in the move. This will allow the convening of only one class of 20 students at a time (vice two classes of 30). In addition to dedicated spaces, SAR School will be provided use of shared classrooms and the computer lab. If circumstances call for convening two classes simultaneously, the shared classrooms could be arranged for that convening.

In addition to the two resident courses (Maritime RCC Controller Training and Group Search Planner Training), the SAR School will continue to conduct "road shows" in Coast Guard Auxiliary Search Planning and various specialized courses for other countries (e.g. Bermuda, Hong Kong). The Air Force instructors assigned to SAR School are also responsible for conducting the Inland SAR Planning course at various locations.

Regular classes will begin again in October 1989.

NOTES FROM SAR QUOTA CONTROL

As you submit your short term training requests for the coming year's convenings you may wonder what your chances are of getting a quota. Quotas are assigned using a first in, first out algorithm from pending training requests. Training requests must name an individual, "open" quota requests for a unit will not be filled. Be sure to note on the short term training request which position you fill to allow a proper priority to be assigned. If after being assigned a quota you are not able to attend, any substitutions must be approved by Commandant (G-NRS). Here are some basics about the courses and who may attend.

Maritime RCC Controller Training (SAR-MRCC) provides training in oceanic search planning techniques and in the performance of duty as SAR Mission Coordinator. Quotas are for officer and enlisted personnel asigned to duty as controller or assistant controller at a Rescue Coordination Center. Requires previous SAR experience and proficiency in plotting, navigation and mathematics.

Group Search Planner Training (SAR-GROUP) provides training designed for Group level SAR watchstanders and SAR mission planners. Some of the complexities of oceanic search planning are avoided in favor of the Coastal Model of the Manual Solution found in the Coast Guard Addendum to the National SAR Manual. The coastal model applies from the coastline to 25 miles offshore for the first day's search effort. Quotas are assigned on a priority basis. First priority are officer and enlisted personnel assigned to duty as controller or assistant controller at a Group SAR OPCEN and Group Operations and Assistant Operations Officers. Second priority COs/XOs, OinCs/XPOs of stations. Requires previous experience in SAR operations and proficiency in plotting, navigation, and mathematics.

Coast Guard Auxiliary Search Planning (SAR-AUX) provides a condensed version of the Coastal Model for Auxiliarists responsible for search planning and training. Eligibility is limited to USCG Auxiliarists who meet qualifications as established by the Auxiliary which normally includes successful completion of designated Auxiliary course material. Attendence by regular Coast Guardsmen not authorized. Requires previous experience in SAR operations and proficiency in plotting, navigation and mathematics. Quotas are auxiliary controlled.

The **Computer Aided Search Planning (CASP) Course** is no longer offered as a resident course, but is being replaced with a correspondence course which should be available soon.

There is no formal classroom SAR training for pilots, shipboard personnel or stations. The current resident courses teach SAR planning, and billets whose primary function is SAR planning are assigned at Group and District SAR desks. Those not able or eligible to attend resident training should enroll in either the SAR correspondence course (course code 409) or SAR Fundamentals correspondence course (course code 431) from the Coast Guard Institute. SAR School completion (or attendance) is not a SAR or Aviation requirement for Aircrew upgrades. We recommend the Air Operations Manual requirement for SAR be accomplished through completion of the SAR Fundamentals correspondence course.

SCHOOL SCHEDULES FOR FY 90

By: CWO2 Bruce HIBBS, G-NRS-2

HEADS UP! Here's a chance to plan ahead and schedule your people for fiscal year 90 training. Listed below are convening dates for the National Motor Lifeboat School and Coxswain "C" School. The waiting list for these schools is growing every day. If you are anticipating requesting a quota for any of these classes convening in FY 90, now's the time to submit those requests. If you have an urgent need, have questions about the course, or want to find where you or an individual is on the waiting list, you may call CWO2 Bruce Hibbs at FTS 267 2868 or (202) 267 2868. I can only provide information for the schools I manage. I have also listed a short course description along with the prerequisites for each course.

The National Motor Lifeboat School offers four different courses; (1) Supervisor's courses, (2) Heavy Weather Coxswain course, (3) Surf Rescue Boat Coxswain course, and (4) MLB Coxswain course for reserves. Classes listed as Supervisor are for Group Commanders, Group Operations Officers, Commanding Officers, Officers in Charge, and Executive Petty Officers of units with an MLB attached. The Surf Rescue Boat (SRB) course provides qualified MLB coxswains with type related training, showing the idiosyncrasies of operating the SRB. The two week Reserve course is intended for training reserve personnel in selected 44-foot Motor Life Boat Coxswain qualification tasks. Surf/Heavy Weather training is not included in this class.

Prerequisites are:

(1) Heavy Weather: Be a certified coxswain on an MLB and have bee a coxswain in good standing for a minimum of six months.

(2) Surf Rescue Boat course: Attended the Heavy Weather Coxswain Course within the last three years.

NMLBS FY 90 SCHEDULE

CLASS	TYPE OF CLASS	DATES
1-90	Coxswain	08 Oct - 28 Oct 89
2-90	30 FT SRB	28 Oct - 02 Nov 89
3-90	Supervisor	05 Nov - 18 Nov 89
4-90	Coxswain	26 Nov - 16 Dec 89
5-90	30 FT SRB	16 Dec - 21 Dec 89
6-90	Coxswain	07 Jan - 27 Jan 90
7-90	30 FT SRB	27 Jan - 01 Feb 90
8-90	Supervisor	04 Feb - 17 Feb 90
9-90	Coxswain	18 Feb - 10 Mar 90
10-90	30 FT SRB	10 Mar - 15 Mar 90
11-90	Coxswain	25 Mar - 14 Apr 90
12-90	30 FT SRB	14 Apr - 19 Apr 90
13-90	Supervisor	22 Apr - 05 May 90
14-90	Coxswain	06 May - 26 May 90
15-90	Coxswain	27 May - 16 Jun 90
16-90	Reserve	17 Jun - 29 Jun 90
17-90	Coxswain	09 Sep - 29 Sep 90

The Coxswain C course provides training in selected Coxswain qualification tasks to certify crewmembers

COX'N "C" FY 90 SCHEDULE

CLASS	TYPE OF CLASS	DATES
1-90		25 SEP - 20 OCT 89

2-90	02 OCT - 27 OCT 89	10-90	15 JAN - 09 FEB 90
3-90	09 OCT - 03 NOV 89	11-90	22 JAN - 16 FEB 90
4-90	16 OCT - 10 NOV 89	12-90	29 JAN - 23 FEB 90
5-90	06 NOV - 01 DEC 89	13-90	19 FEB - 16 MAR 90
6-90	13 NOV - 08 DEC 89	14-90	26 FEB - 23 MAR 90
7-90	20 NOV - 15 DEC 89	15-90	05 MAR - 30 MAR 90
8-90	27 NOV - 22 DEC 89	16-90	12 MAR - 06 APR 90
9-90	08 JAN - 02 FEB 90		

Lloyd Bermuda sinking

By PA3 Kenn Arbogast, CCGD1 (dpa)

Three men survived a North Atlantic storm that took the lives of two fellow crewmen and left six lost at sea after the container ship Lloyd Bermuda sank 180 miles south of Cape Cod Dec. 28.

Coast Guard, Navy and Air National Guard aircraft located five men, including the three survivors during a two-day search.

The 254-foot ship was on a routine trip from New York to Bermuda loaded with containers carrying a variety of cargo. The ship was battling 20-25 foot seas and high winds when several containers apparently broke loose on the port side. The unbalanced ship listed over and began taking on water.

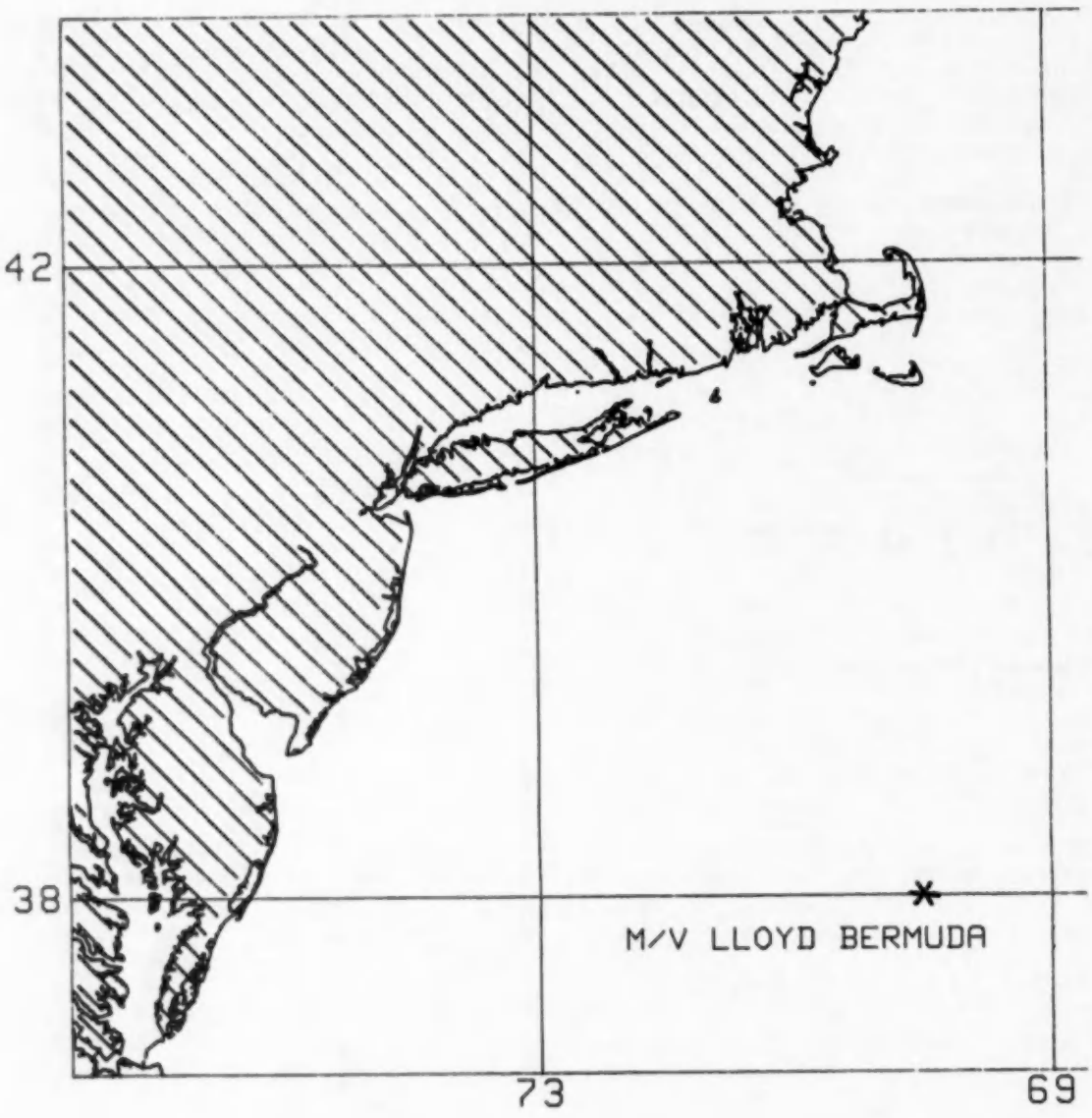
Shortly after 7 P.M., the skipper sent a distress call. He told Group Woods Hole that his 11-man crew was abandoning ship. His boat was equipped with

The Operations Center in Boston immediately dispatched a Falcon jet and two H-3 helicopters from Air Station Cape Cod and a C-130 aircraft from Elizabeth City, N.C. TAMAROA, then patrolling off Cape Cod, was diverted to assist.

The heavy winds and the distance off shore complicated the aerial search. Soon after arriving on-scene, the helicopters were forced to return ashore to refuel.

Shortly after midnight, the jet spotted three people in the water waving flashlights. While the jet went ashore to refuel, the C-130 circled the men, directing a merchant ship to the spot.

The motor vessel EAGLE found the three men and began the delicate job of maneuvering towards the people in the rough seas. Just after 1:30 A.M., two



men were pulled aboard. As he was pulled from the water, a third man slipped from his life-jacket and fell back into the water. He was not found again.

The two rescued men suffered mild hypothermia. The water temperature where they were rescued was between 50 and 60 degrees due to the warm flow of the Gulf Stream current.

The search continued. About 4 A.M., a Coast Guard helicopter spotted two more men in the water. ASM2 Joe Rock was lowered into the heavy seas and he retrieved both men. One man had lashed himself onto a wooden pallet and his rescuer had to pry him loose. They were taken to Falmouth Hospital where one was pronounced dead and the other was placed in intensive care, suffering from hypothermia.

A large air search began just after sunrise. Coast Guard aircraft included a helicopter and jet from Air Station Cape Cod and a C-130 from Elizabeth City. The New York Air National Guard on Long Island provided a helicopter and a C-130. The Navy sent a P-3 aircraft from the Naval Air Station in

Brunswick, Maine. Three merchant ships; AMERICAN CONDOR, MEDALLION, and COMPANION EXPRESS, joined the search for the missing crewmen.

Later that morning, the Navy P-3 spotted an empty life raft approximately 26 miles from ship's last known position. Later in the day, the body of a fifth crewman was pulled from the water by a Coast Guard helicopter.

When TAMAROA arrived on scene, the two survivors were moved on board from the M/V EAGLE. TAMAROA, as well as a Coast Guard C-130, continued to search throughout the night.

As weather improved Dec. 30, eight aircraft from as far away as Coast Guard Air Station Clearwater, Florida, and Southridge Air Force Base near

Detroit, Michigan, searched a 9,300 square mile area, approximately the size of New Hampshire. TAMAROA also remained on scene. In the midst of the search, the SOPHIE G, a fishing boat from Stonington, Conn., began taking on water and the four crewmen abandoned ship about 80 miles south of Block Island. An HU-25 jet from Air Station Cape Cod left the search area and quickly located the life raft. The four men were quickly rescued by an Air National Guard H-3 helicopter that was enroute to the search area.

During that day, investigators from the Marine Safety Office in Providence, R.I., interviewed the survivors. They said the starboard life boat and life

raft were inaccessible because the starboard boat deck was flooded and they could not lower the port life boat because of the severe list.

Investigators believe the port life raft, which searchers found, was automatically released by a pressure trigger after the boat sank.

With that information, the search was suspended after 48 hours. Six crewmen remain lost at sea.

The Lloyd Bermuda was registered in Cyprus and the Cypriot government has asked the Coast Guard to assist in gathering facts about the cause of the accident.

ATTENTION EMTs

Submitted by: HSC Green, EMT School

EMT School now has a video library for continuing education. EMTs in the field may now check out video training tapes for a two week period. The videos cover a wide variety of topics from Assessment of the Trauma Patient to General First Aid for common medical emergencies. This aspect of training will assist the EMT in the field in maintaining an acceptable level of continuing education. Remember, continuing education is the EMT's responsibility.

Request videos by number, please give an alternate number, only one tape will be sent to a unit at any given time as the tapes are limited.

The video's will be sent by certified mail, return receipt requested, insured for $200.00. If you have any questions contact EMT School FTS 623-7040, or Comm 707-765-7040.

USCG EMT SCHOOL VIDEO LIBRARY LIST

Video #	Name	Topic	Time
1	Kinematics	Energy and force as related to physical trauma.	19:00
2	Assessment of Trauma Pt.	Techniques of primary and secondary survey.	20:30
3	Violent Patient Management	Identify potential hazard in Pt. behavior, and how to protect yourself.	12:36
7	Say it Right	How to obtain a patient history.	21:41
10	Abd. Trauma	Abdominal anatomy and kinematics of abdominal trauma.	11:45
17	Special Comms Parts 1 & 2	Emotional aspects of an emergency and how they affect communications.	33:29
20	Emergency Mgmt of Chest Injuries	A & P of the chest, shows techniques of chest injury management.	17:37
30	Going into Shock	Defines shock, also how to recognize and treat shock.	17:00
31	Emergency Obstetrics	Procedures for assisting in normal deliveries.	21:00
32	CPR for Rescuers	BLS film designed to supplement CPR classes.	30:00
33	Emergency	General First Aid for common medical emergencies.	60:00

44 MLB Standardization Team Update

By: MK1 G. E. TRAPP and MK1 B. D. BECK

On our past Standardization Team visits to various MLB units around the Coast Guard we have found two common non-standard practices. The first non-standard practice involves the type of Dry Chemical Extinguisher to be carried onboard the MLB. In accordance with the Naval Engineering

Manual, COMDTINST M9000.6A, Chapter 555, Section 2.9.1 the proper Dry Chemical Fire Extinguisher is of the cartridge type. These cartridge type extinguishers can be recharged by unit personnel. Stored pressure Dry Chemical Extinguishers are not authorized to be carried onboard the MLB. The Ansul model number for the 5 lb. cartridge type Dry Chemical Extinguisher is K-5, NSN 4210-00-245-1118. The Ansul part number for the bracket assembly is 7077, NSN 4210-00-245-1117.

A stored pressure type extinguisher

A Cartridge type fire extingulusher

The second non-standard practice frequently noted deals with the Preventative Maintenance conducted on the cartridge type fire extinguishers. The Standardization Team has found that the fire extinguishers are in fact being maintained in accordance with the 44'MLB PMS manual, however the procedures outlined in the PMS manual are for the stored pressure type extinguishers. The PMS procedures for the cartridge type differ widely from the stored pressure type and following the procedures listed in the PMS manual will not allow for proper maintenance. This could cause possible failure of the extinguisher at a critical time. We've included a reprint from the Ansul Fire Protection Co. containing the recommended maintenance procedures for the K-5 Dry Chemical Fire Extin guishers.

The Standardization Team is here to assist you, if you have any questions or problems don't hesitate to give us a call. If you have any helpful information that might benefit other MLB units, give us a call, FTS 396-9305 or COMM (206) 642-2384.

The opposite page is a reprint of recommended maintenance procedures, supplied by the Ansul Fire Protection Co., for the cartridge type extinguisher.

To provide maximum assurance that the extinguisher will operate effectively and safely:

1. Remove extinguisher from wall hanger or bracket and check that ring pin is secured with visual inspection seal.

WARNING

IF THE RING PIN IS NOT IN PLACE OR THE SEAL HAS BEEN BROKEN, THE EXTINGUISHER MAY HAVE BEEN PRESSURIZED AND A COMPLETE RECHARGE MUST BE PERFORMED AT THIS TIME.

2. Check nameplate for readability, corrosion, or looseness.
3. Unscrew fill cap assembly from extinguisher.
4. Remove cartridge (left-hand threads) from bottom of fill cap assembly, install safety shipping cap, and set aside in a safe location.
5. Double-over an ordinary pipe cleaner and partially insert folded end into the gas tube opening (located at top of fill opening threads) to prevent dry chemical from entering the gas tube.

6. Empty dry chemical from extinguisher into a clean, dry container. Cover the container to prevent the entrance of moisture.
7. Remove nozzle from holder, open nozzle, and blow through nozzle to make certain hose and nozzle are free of dry chemical. Secure nozzle in holder.
8. Pour dry chemical back into extinguisher, making certain that extinguisher is filled to rated capacity.
9. Brush dry chemical from fill opening threads and gasket seating surface.
10. With cartridge removed from fill cap assembly, pull ring pin and operate ball lever to check puncture mechanism for free movement.
13. Remove safety shipping cap and weigh cartridge. Replace if weight is 1/4 ounce (7.1 g), or more, below weight stamped on cartridge. (Scale is Part No. 3923.)

NOTE

If cartridge requires replacement, order under Shipping Part Number.

Model	Part No.	Shipping Part No.
4 or 5	8831	4523
LT-5-L	24380	7013

11. Pull up ball lever on top of fill cap assembly and insert ring pin to hold lever in "up" position. Seal ring pin in place with visual inspection seal (Part No. 15999).

12. Check the gaskets on the fill cap and in the cartridge receiver for cuts or checking.

14. Make certain ball lever is ring-pinned in the "up" position to assure safe cartridge installation and hand tighten cartridge fully into fill cap assembly (left-hand threads).
15. Remove pipe cleaner from gas tube opening.
16. Secure fill cap assembly and hand tighten.
17. Record date of maintenance examination and return extinguisher to wall hanger or bracket.

UTB Standardization Team

By: Staff, UTB "STAND" TEAM

The 41 foot UTB Standardization Team, described in COMDTINST 16100.3 dtd 18 May 88 has been established at Yorktown, VA. Beginning sometime this summer the Team will travel to units throughout the Coast Guard which have 41' UTB's assigned, to assess the material condition of the boats in accordance with established configuration, engineering and maintenance standards. The "STAND" Team will provide unit CO/OICs with a written summary of the boat material condition, and the operational performance of each boat crewmember as observed during underway check rides. The team will furnish corrective recommendations where non-standard practices are noted.

To develop UTB expertise, the "STAND" Team has been assigned a boat (41447) to develop as the "model" standard UTB. It will also help us (through experience) to understand some of the problems that you encounter in maintaining standards with your boat. Another project we're working on is compiling a 41' UTB "Coating and Color" handbook. We feel the need for one reference pertaining to the painting of the UTB that will have proper paint color #s, sources of supply and or NSN#, as well as details on specific colors for specific items/areas where the Coating and Color Manual is vague. The CG 41312, also located at Yorktown, has been established by Commandant as an authorized "prototype evaluation" boat. We are currently evaluating a different stowage arrangement and some prototype brackets and storage bins. The new style aqua-signal running lights are also being evaluated and we are working with MLC LANT and Cape May to prepare a BOATALT recommendation. In the meantime, you are cautioned not to mount the new lights until a BOATALT is approved. We welcome your input on stowage or any ideas you have for improvements on a 41' UTB.

During the next few months we will be concerned primarily with research and preparation. The BM training programs and the Yorktown UTB fleet provide the right environment to develop our expertise.

Several key "STAND" Team members include BMCS Vince E. Vita, BM1 Pat Matte, and MK1 Larry Griffin. Our BM instructional staff and engineers will be involved in the program and will eventually participate in station visits as the program grows. We are very interested in communicating with Groups and units about any ideas, problems, or comments concerning all aspects of your 41' UTB(s). You can reach the team members during normal working hours at:

BMCS Vita Com 804-898-2125

BM1 Matte/MK1 Griffin Com 804-898-2272
FTS 872-2125 / 2272

We are looking forward to hearing from you!

COAST GUARD APPROVAL – WHAT DOES IT MEAN?

By: R. L. Markle, Chief, Survival Systems Branch, G-MVI-3

What Coast Guard Approval Means

So, what does Coast Guard approval mean? It simply means that the approved device meets or exceeds the minimally acceptable technical requirements established in the regulations, and that the manufacturer has gone to the trouble and expense to get Coast Guard approval. A comparable unapproved device might be better or worse than the Coast Guard approved device, but a buyer of an approved device has some measure of assurance that it meets appropriate performance and quality standards. In the absence of approval, buyers have to rely on some other information to assure themselves that the unapproved device will meet their needs, and that it is of an appropriate quality. But, even buyers of Coast Guard approved devices would be well-advised to carefully consider what they are buying, especially if the vessel is involved in some unusual service that might go beyond what was originally envisioned when the Coast Guard approval criteria were established.

Inspected vessels are those which are built under the inspection of the Coast Guard and the American Bureau of Shipping. After entering into service, the Coast Guard inspects them on an annual or biennial schedule. Inspected vessels include those carrying more than 6 passengers, vessels carrying certain dangerous cargoes and flammable liquids, and other commercial vessels over 300 gross tons. All of the lifesaving and fire protection equipment aboard these vessels must be Coast Guard approved, including any which the operator decides to carry voluntarily, in addition to those prescribed by regulation. This is to prevent the use of a substandard unapproved device instead of a Coast Guard approved device, since any safety equipment on board may be used in an emergency.

The Coast Guard does not regularly inspect recreational boats, although the Coast Guard Auxiliary does do courtesy examinations at the request of the owner. Consequently, owners are more directly responsible for the safety equipment on their vessels. Recreational boats must have the prescribed Coast Guard approved safety equipment on board, but they may carry whatever additional equipment they desire, whether approved or unapproved.

Uninspected commercial vessels fall somewhere between inspected vessels and recreational boats. The Coast Guard has the authority to require all safety equipment on board to be Coast Guard approved, but has not exercised that authority. This means that once uninspected vessels are equipped with the Coast Guard approved safety equipment required by law and regulation, we have not generally required additional equipment to be approved. Once again, this puts the responsibility on the owner or operator to make an informed decision about the equipment that an uninspected vessel will carry.

Coast Guard Approval Myths and Realities

Now that we have defined what Coast Guard approval means, let's explore some popular myths:

Myth – Coast Guard approval is a product endorsement, and the Coast Guard will approve any good marine safety device.

Coast Guard approval is not a product endorsement. The Coast Guard does not try to be a "consumer's bureau" for buyers, or a "marketing promotion bureau" for manufacturers. Many inventors and enterprising manufacturers have often tried to get the Coast Guard and its predecessors to approve such things as man overboard alarms, shark repellents, distress kites and balloons. The inability to obtain Coast Guard approval for such devices does not indicate that they are bad ideas, only that there are no Coast Guard regulations requiring them on any vessel. The purpose of Coast Guard approval is not to provide marketing assistance to manufactur-

ers, but to provide information to vessel owners concerning equipment which has been found to meet the regulatory requirements.

Myth – Coast Guard approval is a guarantee that a device is suitable for use under any marine conditions.

There is a wide variety of Coast Guard approved equipment available, but this by itself does not eliminate the need for further evaluation by the buyer concerning a particular item. Inflatable liferafts are an example. Coast Guard approval provides the purchaser some assurance that the liferaft is built to pass a series of rigorous tests, that it is made of high quality materials, and that it will operate reliably if properly serviced. But, there are still choices to make. The Coast Guard stated in a recent Federal Register notice that "it is evident that a large water volume [in a ballast chamber underneath the liferaft,] can improve the stability of liferafts. "There are Coast Guard approved liferafts available with different designs of large stability chambers, and others with only small water pockets. The buyer needs to make an informed decision as to whether or not the vessel should be equipped with a liferaft with a large stability system. Also, the emergency equipment pack may be "Ocean Service" suitable for a week or more adrift, or "Limited Service" without water, provisions, or other long-term survival gear.

Another example is personal flotation devices (PFDs) and exposure suits. Uninspected commercial vessels under 40 feet in length and not carrying passengers, can meet their regulatory requirements for personal flotation equipment by carrying Type I, Type II, Type III, certain Type V PFDs, or exposure suits! Vessels operating in exposed waters where the seas might become rough, should carry only Type I PFDs, or better yet, exposure suits, especially in cold climates. In addition, operators with personnel working in exposed locations on deck would be well-advised to consider carrying in addition, approved buoyant work suits, float coats, or work vests.

Myth – Coast Guard approval indicates a device will last indefinitely.

Coast Guard approved equipment is meant to be durable and to function properly in an emergency, but approval does not mean a device is unbreakable. It still needs proper maintenance and protection from abuse. The Coast Guard approval regulations are intended to result in equipment that will last a reasonable amount of time when reasonably cared for. "Gold-plating" is avoided so that purchasers will not have to bear unnecessary costs. At the same time, manufacturers have enough leeway to allow the approval of designs which significantly exceed the requirements. Lifejacket (PFD) lights are an example. Approvals range from an inexpensive chemical light with low light output (but high reliability), to expensive, high output strobe lights.

Myth – Any "SOLAS approved" equipment can be used in place of Coast Guard approved equipment.

"SOLAS" is the International Convention for the Safety of Life at Sea. The idea for this treaty originated with the loss of the TITANIC, and today it covers most commercial shipping in international service. (Fishing vessels are specifically excluded, however.) The 1981 and 1983 Amendments to this treaty made important revisions in fire protection measures and lifesaving equipment. In the lifesaving chapter, in particular, various technical requirements for lifesaving equipment were specified for the first time. These new international lifesaving equipment requirements have eliminated many of the differences that used to exist between equipment approved by the United States and other governments. Many manufacturers are producing a single item of equipment for all of their customers world-wide. These items have sometimes been called "SOLAS approved", but there is, in fact, no such thing. Different national shipping administrations, such as the Coast Guard in the United States, are responsible for approving equipment to the SOLAS requirements, and any additional national requirements. The important thing for U.S. vessels is still Coast Guard approval. Without the Coast Guard approval number, a device is not approved to meet U.S. regulations, whether or not "SOLAS approval" is claimed by the manufacturer.

Myth – Coast Guard approval is a conspiracy with equipment manufacturers to drive up prices.

It sometimes seems that Coast Guard approved devices cost twice what they should. As discussed previously, the Coast Guard tries to avoid "gold-plating", but sometimes limited demand for approved equipment gives rise to extra carrying expenses for manufacturers and distributors. The Coast Guard also requires accurate design documentation, and testing often by independent laboratories, both of

which add costs which the manufacturer must recoup through sales. Sometimes, the effect can be re versed. Several years ago when exposure suits were first required on inspected cargo vessels, several new manufacturers entered the business, and the excess supply led to price cut, which one manufacturer characterized as brutal.

The Coast Guard is attempting to avoid unnecessary costs for approved equipment by eliminating unnecessary requirements, and using industry standards wherever possible. For example, on May 18, 1988, we published a Final Rule which ended Coast Guard approval for flashlights used in hazardous locations, and on lifeboats and liferafts. Instead, the Coast Guard will accept flashlights labeled by their manufacturer to comply with a standard of the American Society for Testing and Materials (ASTM).

Myth – A manufacturer needs Coast Guard approval to sell any device to the marine market.

If a manufacturer has a good idea and a good salesperson, any invention or good idea can be sold for use on ships and boats, as long as it doesn't conflict with a Coast Guard safety regulation. This applies to things like life preservers for dogs, and storage boxes for life preservers. More than one propeller polish salesman has been sent packing by a vessel owner who told him to come back when he had Coast Guard approval. Some people are surprised to find that the Coast Guard does not approve safety items for use at the beach. ("Isn't that the coast the Coast Guard guards?").

Myth – Coast Guard approval is a means by which a manufacturer can get the Coast Guard to buy a device for its own use.

The purpose of Coast Guard approval is to verify that a device can be used to meet safety or pollution prevention requirements on a commercial vessel or recreational boat. The Coast Guard, as a military service, has needs which are not always the same as for commercial vessels or recreational boats. The Coast Guard sometimes buys Coast Guard approved equipment for its own use, but often uses Navy equipment, or equipment built to special specifications.

Myth – Coast Guard approval is a "made in the U.S.A." requirement.

It's not. Coast Guard approved items include many made in Canada, Europe, and Asia, and other places.

Some Other Considerations

A unique type of Coast Guard approval involves servicing facilities for inflatable liferafts. Most items of safety equipment can be inspected or tested on board rather easily, but the inflatable liferaft is an exception. It stays in its container until needed, then it has to work. Once out of its container, it has to be properly repacked, and there is no way to inspect the raft without removing it from its container. This can't be done on the deck of a vessel where it would be exposed to dirt and puncture hazards. For this reason, liferaft manufacturers and the Coast Guard are very particular about who inspects and repairs liferafts. Liferaft servicers are like parachute packers -- they have to know their business, because the user only gets one chance.

Liferaft manufacturers provide training for servicing technicians that work in authorized servicing facilities worldwide. The manufacturers of approved liferafts designate qualified facilities with trained personnel, then the Coast Guard sends an inspector to look at the facility and witness the inspection- and repair of a liferaft. If all is satisfactory, the facility is designated a Coast Guard approved facility for that manufacturer's liferafts. Manufacturers of unapproved liferafts also train servicing personnel and designate servicing facilities, but the Coast Guard does not get involved in approval of these facilities.

It is important for liferafts to undergo inspection and servicing annually by a servicing facility qualified to service that particular make of liferaft. A facility qualified to service the liferafts of one manufacturer is not automatically qualified to service the rafts of another manufacturer. Each raft manufacturer's design is unique, and there will be important differences between them. A facility not designated by the manufacturer will not have the manufacturer's servicing manual, and will not be familiar with any special repair or packing techniques that apply to those rafts. Consequently, a raft serviced by an unauthorized facility may not operate properly when needed. People selecting a servicing facility should make sure that the facility is properly authorized. Authorized facilities will be glad to display their authorization from the manufacturer, and their Coast Guard letter of approval, if the manufacturer makes Coast Guard approved rafts.

Information on Approved Equipment

Answers to questions about approved equipment can be obtained by writing to:

U.S. Coast Guard (G-MVI-3)
2100 Second St., S.W.
Washington, DC 20593-0001

Telefax:1-(202)-267-1069

Information can also be requested through the Marine Safety Hotline at 1 (800) 323-SAFE, or the Boating Safety Hotline at 1 (800) 368-5647.

SOFT LEE CLOTHS

Submitted by: CWO Scott, G-OCU

Anyone who has been to sea in heavy weather knows that one of life's most exasperating problems can be simply staying in the bunk to try to get some rest. Probably the best solution to this problem is the use of a hammock, but we quit using them shortly after we gave up on sailing ships in our operational fleet. (Before I experience a "hue and cry" from former USCGA cadets, I am aware that EAGLE used hammocks until the 1970's; further I know of a CO of a 255' WHEC that had a hammock in his cabin that he used during heavy weather as late as 1970.) Solving the problem of staying in the bunk requires a degree of innovation, or listening to the things the old hands have tried. In the past, some sailors loosened the lines on the pipe rack which supported the canvas to form a valley, or used an oversized mattress. A foul weather jacket, blanket or other bulky item stuffed under the mattress to raise the lee side can also help keep you in your rack. Some people have even suggested using seat belts.

As you can see, there are probably many ways to modify the current rack found on most of our cutters. We feel that MKC J. A. NOVOTNY Jr. of CGC AQUIDNECK (WPB 1309) has come up with one of the best solutions offered to date. His suggestion is to install "Lee Cloths" in lieu of bunk rails on cutters not having "Northampton" racks. Some of you may have seen "Lee Cloths" used on sailboats; however, this is the first time it has been brought to our attention for use on our cutters. The "Lee Cloths" in use on CGC AQUIDNECK are made of a light, fire retardant nylon material, and measure 36 inches long by 18 inches high. The bottom attaches to the bunk with four standard snaps and the top is connected to the side of the next higher bunk or to the overhead with three adjustable straps fitted with hook clips. They can be modified to fit individual cutter's need. **(See photo on the opposite page.)**

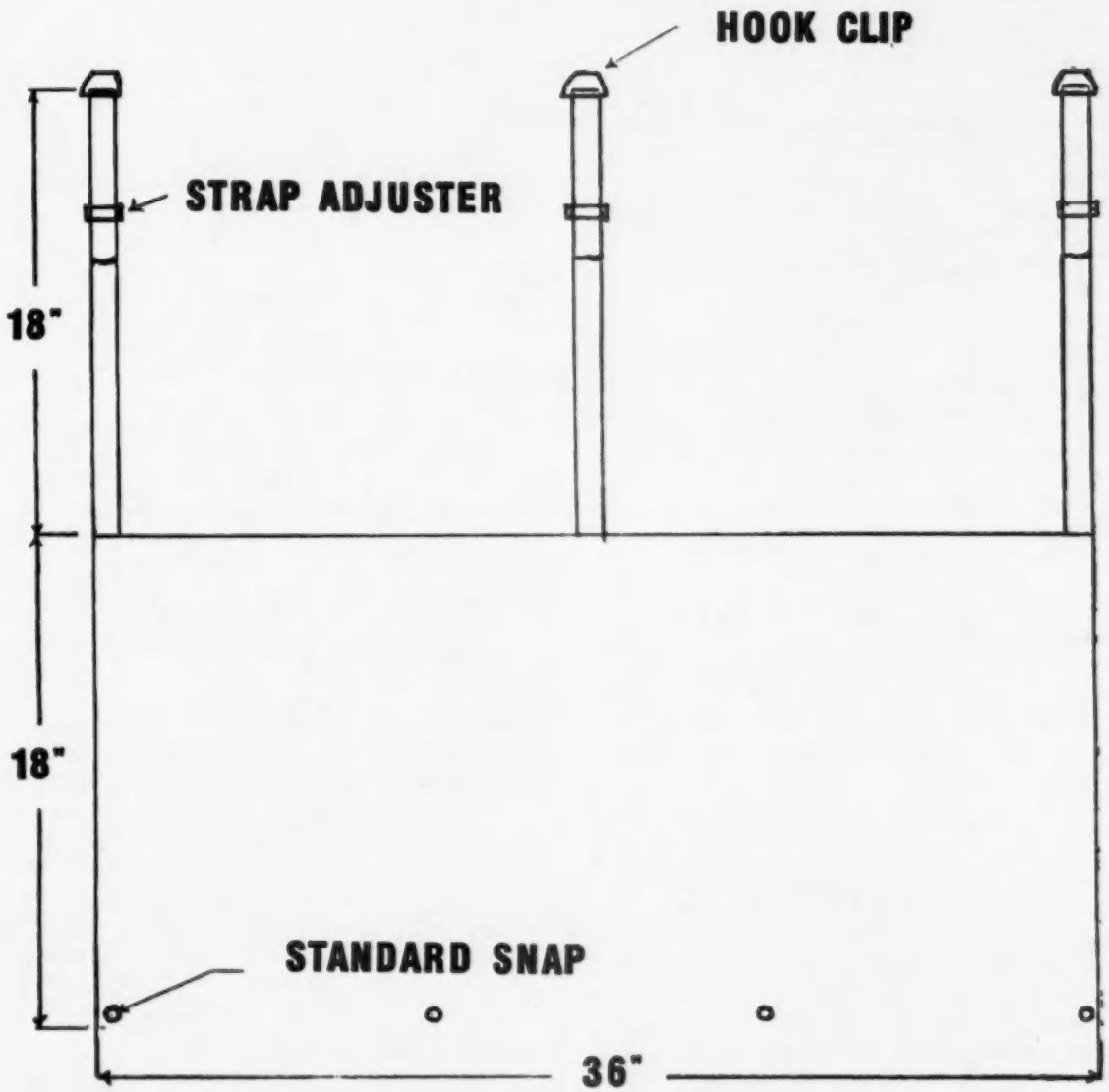
The "Lee Cloths" are light weight, stow easily, cover maximum bunk area, and will cushion the user. They also provide some measure of privacy in a berthing area. They can be rigged in heavy seas with one hand, or stowed in calmer weather beneath the mattress or in a locker. In the event of an emergency, the user can remove the cloth by pulling the bottom inward, breaking the snaps free.

"Lee Cloths" are a significant improvement over the bunk rails and chains currently used by many of our cutters. Commandant (G-OCU) has made the "Lee Cloth," optional for all POINT, CAPE, and ISLAND Class cutters. Each "Lee Cloth" weighs less than 6 ounces including the hardware. The estimated cost of each is $40. As they are optional, funding must be borne by the unit if they are desired. The "Lee Cloths" should be made of fire retardant material which meets Spec. MIL C-24500.

This idea was submitted through the Beneficial Suggestion Program. MKC NOVOTNY received a cash award for his idea.

If you have any questions about "Lee Cloths", have suggestions to modify this idea, or perhaps have a different solution to the problem of keeping yourself secure in a bunk at sea, please contact CWO SCOTT in G-OCU at FTS 267-1768.

Lee Cloths as installed aboard
GC Aquidneck


HOOK CLIP
STRAP ADJUSTER
18"
18"
STANDARD SNAP
36"

Pacific Rescue

By: Mr. Ken White

Ed Note: Ken, a native of Powell River, B.C., volunteers hundreds of hours a year in support of both Canadian and U.S. Search and Rescue efforts. Putting in many hours a day on a self-imposed radio watch schedule, he has on several occasions, directly participated in communications relay on long range Pacific SAR cases. He recently received recognition from a local Canadian Air Force Base for his selfless efforts in support of SAR.

On the 11th of June 1988, U.S. Coast Guard Radio Honolulu (NMO) received a report from the bulk freighter BRAZILIAN SKY, enroute to Panama from Japan, that the second engineer was ill with a bronchial condition. U.S. Coast Guard Radio Honolulu passed the information to the Joint Rescue Coordination Center Honolulu of the situation

JRCC put the BRAZILIAN SKY on a communications schedule to monitor the condition of the stricken man. Medical advice was sought in order to treat him. An AMVER surface plot was taken around the area of the BRAZILIAN SKY to find out if there was a ship nearby that was capable of advanced medical treatment or had a doctor on board. Meanwhile BRAZILIAN SKY was directed to proceed to the nearest landfall.

On June 16th, JRCC Honolulu was advised there was a Canadian Armed Forces Naval task group in the area. The task group, composed of five destroyers and one replenishment ship, was sailing from China to Hawaii following its tour of Pacific Rim countries. JRCC Honolulu selected the destroyer HMCS HURON which had two Sea King helicopters aboard and was 500nm to the northeast.

HURON began to make preparations to proceed to the distress site. HURON came alongside the replenishment ship HMCS PROVIDER to take on fuel and PROVIDER's medical officer. With her refueling completed, HURON swung away from the task group and steamed northeast.PROVIDER's medical officer had a tough time making a medical diagnosis on the distant patient. He had little to go on, but based on third hand information he'd received, he strongly suspected chronic asthma. After being underway for 16 hours HURON was finally within helicopter range of the BRAZILIAN SKY One of HURON's two Sea King helicopters was launched with PROVIDER's Medical officer and medical assistant onboard.

Once on scene, the Sea King's hoist operator lowered the medical officer and medical assistant to the deck of the BRAZILIAN SKY. They quickly assessed their patient. The prognosis was not good. The Second Engineer was near death and had not eaten for 5 days. It was imperative that the patient be transported immediately back to HURON for advanced medical treatment. Immediately after starting treatment, the engineer was hoisted aboard the hovering Sea King.

Once the Sea King landed on the deck of HURON, the patient was rushed to the sickbay, and put on life support systems. HURON was proceeding at flank speed to the nearest landfall, Midway Island. During the night, the patient came close to death, but eventually, the treatment by the medical officer and his assistant took hold and he started to improve. By midday, the Engineer had made a miraculous recovery. HURON had conferred with JRCC Honolulu on arrangements to transfer the patient for further medical treatment.

JRCC Honolulu launched a C-130 Hercules from CGAS Barber Pt. to Midway Island. The patient was airlifted by Sea King helicopter and transferred to the awaiting C-130 Hercules. Once airborne the C-130 was winging its way back to Honolulu with a very greatful seaman aboard.

FLARE CASES:

Urgent, Common, Difficult...Frustrating

By: LCDR G. D. GARRETT, USCGC SALVIA

How well do we prosecute flare cases?

How do we prosecute flare cases?

DIFFICULTIES INHERENT IN FLARE CASE PROSECUTION--

Datum determination,

Target uncertainty,

Related planning problems, and

Termination issues,

COMBINE WITH --

A lack of service standard policy, procedure and training, and

Human factors, influenced by a high case-suspended-unresolved rate,

In a resource scarce, multi-mission high demand environment

TO UNNECESSARILY REDUCE RESPONSE EFFICIENCY AND EFFECTIVENESS, AND INCREASE RISK OF FAILURE.

The potential costs include injury, loss of life, and damage to our longstanding reputation for humanitarian service and search and rescue excellence.

We need a more logical, systematic, comprehensive approach. We need well defined procedures which will efficiently and effectively produce a rescue, resolution, or a confident responsible suspend decision.

Flare cases presently comprise about 3 to 6 percent of the overall SAR caseload, about 2000-4000 cases per year.

Existing regulations already require visual distress signal carriage for inspected vessels and pleasure craft. New regula-tions will soon require VDS carriage for U.S. commercial fishing vessels. Case volume and average severity can be expected to increase.

While most cases are suspended unresolved, and only two or three in ten prove related to a need for assistance, and less than one in ten turn out to be distress related; at the outset, nearly every red/orange flare sighting has the potential to involve persons in grave and immediate danger. Most don't, but we rarely know up front.

Statistics on failed cases--cases where efforts were never undertaken, or where efforts were terminated, although persons were in fact in distress--are not available. But most of us with significant SAR experience know of a near miss, or a tragic case or two, or more. Three unforgettable failed cases illustrate the problem.

Failed Cases

On a clear winter night, a cutter working an offshore shoal buoy, observed three red meteor flares rise and fall, an estimated 5-10 NM offshore from her position. The cutter advised the cognizant opcen, and proceeded to investigate. While enroute the apparent position of the first flares, about 6-8 NM down track, the cutter observed two more red meteor flares rise and fall, about 020 relative, this time apparently closer, at an estimated 2-5 NM. The cutter altered course toward the new sighting. After about an hour and a half "on scene", with no radar or visual contacts, no reply to radio or loudhailer calls, the cutter was released and resumed normal ops. The cognizant opcen made a loose correlation with a military exercise in the area--deficient in specific time, place, and trajectory comparison--and suspended the case. No further effort was expended--until the overdue report came

in a day and a half later. A very substantial effort was launched involving several aircraft and one surface unit. The surface unit suffered a radar casualty in dense fog and returned to base. Poor visibility throughout the area severely hampered search effectiveness. A major effort the following day was also nearly futile in continued poor visibility. On the morning of the next day a cutter not directly involved in the search, but aware of the case by UMIB, and maintaining an appropriate lookout, effected a miraculous rescue. Before dawn, at about 0430L, the cutter's OOD acquired a small intermittent radar target off the port bow at about a half mile. Visibility was less than 100 yards. The ship diverted and slowly closed the target. Shouts and an air horn answered a sweep of the searchlight. At about 50 yards the forms of four men and a capsized hull emerged from the fog. One man, suffering from deep hypothermia was evacuated by UTB to the nearest hospital, where he died hours later. The others survived. The men, in wet suits, or parts of wet suits, had clung to their capsized hull for almost 96 hours. The water temperature was in the low sixties. Debrief confirmed them as the source of the previously sighted flares. The cutter which had sighted those flares, had closed to within about a mile, before leaving the scene.

In another case, a tug sighted red meteor flares between his position about 20 NM offshore and the coast. The tug, encumbered with a large deep tow, was unable to investigate further due to his load and shoaling in the area. No night response was launched. A daylight helo sortie yielded negative results. A day or two later the overdue report came in. An extensive four day search employing air and surface assets yielded negative results. Nineteen days and almost 800 NM after firing flares within 20 NM of the coast, a passing ship rescued the four men from their disabled F/V.

In another case, SMC decided available information was too sparse to warrant a response, but took little action to obtain additional facts from other sources. Daylight revealed a sailboat mast protruding above icy local waters. The bodies were found a few hours later.

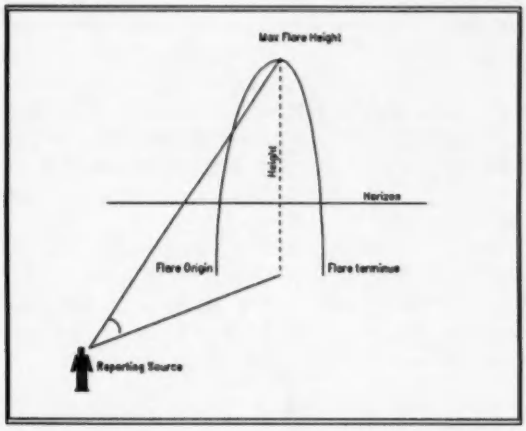
If we are to maximize the chance of rescue for those signalling their distress with flares, and avoid outcomes like these, and to do so with minimum resource waste, we need to address a few problems peculiar to flare cases. For the most part though, the basic solution is the same as for other cases--***hit it smart, hit it early, and hit it hard.*** Define datum as accurately as possible. Immediate response is critical. Allocate sufficient resources early to achieve a high probability of success, before datum expands requiring more resources to yield comparable results, and while those in peril have the greatest chance of survival. Aircraft response is indicated in almost all offshore scenarios, boat-only response usually being inadequate.

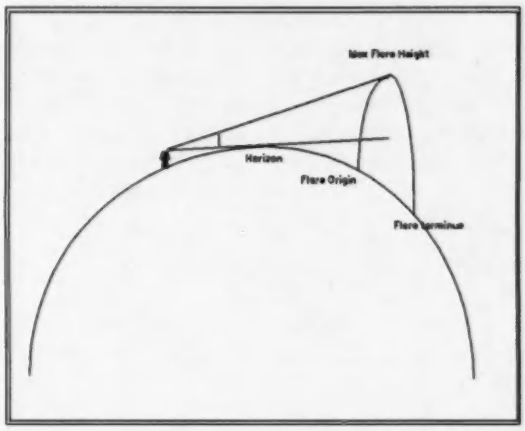
Initial datum determination is a problem.

Most cases involve single reports, or multiple reports with poor LOP cross. Reporting source raw distance estimates are notoriously and understandably unreliable. Even the most experienced mariner is hard pressed to accurately estimate the distance to a brilliant flare at night by seaman's eye alone. On a clear night, with a modest height of eye (20 ft), meteor flares can be seen over 20 NM, parachute flares about 30 NM. Absent credible distance guaging cues, flare origin could be practically anywhere on the reporting-source-to-flare line of bearing, limited only by geographic range. Defaulting to geographic range, in most cases, produces unnecessarily large datums, and unnecessarily dilutes available search effort. But absent credible distance guaging methods, we are only guessing if we do otherwise. We need to exploit every reasonable means of estimating reporting-source-to- flare distance. There are several.

Obstructions can significantly limit datum size. A flare clearly seen to rise or fall in front of or behind an obstruction, clearly originated on this side or beyond the obstruction. As we'll see, the distance to and the height of such an obstruction can further limit datum.

The distance to an object can be reliably estimated by vertical angle, where observer height of eye and object height are known. Meteor flares usually reach heights of between 100 and 350 feet. Parachute flares reach heights of up to 900 feet. Reporting source height of eye can be established with reasonable accuracy. The vertical angle from the bottom of flare trajectory to the top, or from the horizon to the top of trajectory can also be estimated with adequate confidence. A closed fist, held at arms length, thumb side up, approximates 8 degress of arc. Four fingers to the fist; 2 degrees to the finger. The method is amazingly useful even in "after the fact" application. The primary value of this method is not





Measuring distance by vertical angle

that it "pinpoints" flare origin, but that where vertical angle is reliably estimated at about a "fist" or more, reporting-source-to-flare distance is limited to less than 2 NM--significantly reducing datum--making the search problem far more manageable.

This cue, like most others, must be considered together with all available facts. Again, obstructions can be of value in estimating distance. If a trajectory is seen over an obstruction--especially a fairly close and high one--flare origin would be close by.

In significantly restricted visibilities, reporting source-to-flare distance can be significantly limited. We know the nominal range of most flares: handheld about 14 NM, meteor and parachute about 17 NM. If we know the prevailing on scene visibility, we can enter a luminous range table (Bowdich figure 1307b) and determine the maximum distance a flare could be seen under these conditions.

For handheld flares (no rise or fall), simple geographic range can significantly limit reporting-source-to-flare distance, especially for low reporting source heights of eye. E.G., horizon distance for a 40ft height of eye is only 7.4 NM, for 10 feet, only 3.7 NM.

Flare origin or terminus (last seen point of trajectory) relation to the horizon can also give a good distance indicator, especially if "well this side of the horizon".

All these means not withstanding, initial datum areas on the order of 200+ SQNM are common.

Target uncertainty complicates search planning.

Flare case targets are almost never known, so anchored, PIW, and light displacement target possibilities must be considered. Target uncertainty accellerates datum growth as the incident clock runs. Significant winds or currents can produce a rapidly expanding datum, even over the course of just 8-12 hours.

Search areas should include datum for all realistic target possibilities. Night-effort coverage should be as intense as practical. Absent specific target information, daylight-effort sweep width should be determined for a small power boat. Coverage should be as intense as practical with a minimum coverage factor of one. Effort allocation should be sufficient to achieve a probability of success in the 80 percent range.

Until service standards are established, performance can be improved by sharing existing local policies, procedures, and job tools.

A two year effort by several seasoned "major"-operations-center duty officers has produced a training package which has proven to be a very useful tool. These procedures have been in use for about four years with good results. Copies of the complete policy/procedure/training package can be obtained by contacting G-NRS-2. Take a good look at the checklists. Give them a try. Adapt

actual case data for a realistic exercise.

While proven effective, the procedure is somewhat user demanding. Overall utility could be greatly and easily enhanced by developing a user-friendly software package for the search planning aspects. Such a package would be ideally included in the C-3/UNISYS Group Search Planning project currently in the works.

Obtaining a good report is essential

There are many ways to improve flare case performance. The reporting source saw the flare, we usually did not. We know what it takes to resolve a case, he usually does not. The individual taking the report must have a good understanding of case prosecution concepts. Patience and good interpersonal skills are also essential. Quality report taking can help identify non flare incidents such as shooting stars or aircraft on approach. Good report taking is the foundation to effective case prosecution, a good report can spell the difference between success and failure.

No doubt many unresolved cases result when the persons firing flares are assisted, unknown to Coast Guard or local authorities. Major marine flare manufactures may be willing to include a prominent in-product message requesting Coast Guard notification when flares are fired and non-Coast Guard assistance resolves the situation, or when flares are "accidentally" fired in non-distress circumstances, with a brief problem statement, and a tax dollars, resource savings comment.

Education efforts should continue to emphasize complete safety preparedness. While flares are of great value, and an essential part of a complete safety package, they have serious limitations. Increased use of VHF and HF marine radios and EPIRBs should improve system performance.

The single most important element of solving this or any other SAR problem, is still the commitment of the people involved to getting the job done. The commitment of every member of the SAR team, from SRU crew, to SMC, to SAR Coordinator, to ensuring that anyone in danger on, over, or under the waters of the Maritime Area, gets our best shot. Developing efficient, effective procedure is part of that commitment.

If you have better ideas about how to more intelligently prosecute flare cases--share what you know.

PRECOM AND EXCOMS – THEY'RE CRITICAL TO SAR

By: LT Pete Marsh, CGD13 (opc)

This article is about a recent SAR case in which a good PreCom would have saved us some time in finding a boat, but was incompletely done. Because of the incomplete effort, we launched two helicopters and a fixed-wing plane for a search which later proved to be unnecessary, since the missing boat was actually safe at the dock.

As always, it was better to start an active search and find out that we searched unnecessarily than the other way around. And since we did that, no one suffered, but this case provides a great opportunity for us all to refresh ourselves on why good PreComs and ExComs are important, and how to do them well.

Before we start our story, two brief definitions to save you from running to your SAR manual:

A PreCom includes telephone calls to local marinas, fish buyers, marine businesses, and any other place that may know about the missing boat. It's usually done during the Uncertainty stage of a search, and is the initial information gathering.

An ExCom includes a redo of the above, plus physical harbor checks at local marinas and more detailed efforts to find the boat. You should call back the places you called during the PreCom, even though you may feel it's redundant; you may talk to a different person who will remember something someone else did not, and at any rate, people will get the hint that we're really concerned about the boat. Both types of communication searches are outlined in detail in Appendix XIII to Annex India to the District SOP.

Without further ado (finally!), here's a names-and-places-changed version of what happened: Mrs. Smith called the district OPCEN (RCC) to report her husband (John) and one crewmember overdue from a fishing trip on their commercial fish boat, the OHNO. John had called her on Day One from Big Fish River to say he was leaving immediately for three days of fishing on Huge Fish Bank, fifty miles west. He said they'd be back in Big Fish River on Day Four, and that he'd call her then.

As you've guessed, Day Four came and went with no word from John at the Smith House. So did Day Five. On Day Six, Mrs. Smith called some harbor masters and fishbuyers in Big Fish River and two nearby harbors. No one remembered seeing John or the OHNO, so in mid-afternoon she called the Coast Guard RCC. She gave us a description of the boat and his plans; we opened a case, issued an Urgent Marine Information Broadcast, and called the Group Operations Centers to tell them to have the CG Stations in Big Fish, Little Fish, and Small Fish Harbors do PreComs. Since it was already nearing the end of the work day and daylight, we told them to include physical harbor checks in their PreComs, even though those would usually be reserved for ExComs.

We soon got word back from one of the Groups that F/V I HEARD IT responded to the first UMIB, and told them that on Day Four (when OHNO was supposed to be back at Big Fish), he'd been listening to the fishermen's gossip channel on the VHF and overheard the following: OHNO was telling another boat that he had clutch problems, and would be leaving Huge Fish Bank and heading for Big Fish River. At the same time, reports came back from the Coast Guard stations at Big Fish, Little Fish, and Small Fish Harbors that they'd found no sign of OHNO during their PreComs and harbor checks.

All of a sudden, things looked rather dim for the OHNO and her crew. We immediately launched two helicopter sorties from the local air station, and brought in a fixed-wing as well. While they were enroute Huge Fish Bank, we put together a search plan and relayed it to them; then we started working on a search plan for the morning of Day Seven. Imagine our relief when Mrs. Smith called again to tell us that her husband had just called from Little Fish Harbor, and was safely moored there. We called the search units home, and closed a case with the proverbial happy ending.

What can we learn from this?

First and most important is to do exactly what the SMC asks for in a search, and do it thoroughly. In this case, the OOD at Station Little Fish made the calls himself, and sent a crewmember out to check the marina. The crewmember walked down each float in the marina until he could tell that none of the boats further out matched the description, then went on to the next one. However, it later turned out that the OHNO had moored outboard of a larger vessel at the outboard end of one of the floats, so the only way to see him would have been to walk all the way to the end of each float or to get the ready boat underway. Both are good ideas. You could argue that the Coasties there didn't do a bad PreCom – after all, they covered almost all of the docks, right? But the results show that it sure wasn't a good one.

Second, we learn that the people we query about missing boats aren't always listening with their whole ears. Do you remember that Mrs. Smith called the harbormaster and some fish-buyers herself? Well, one of the fish-buyers she talked to on the phone had spoken to her husband John, who identified himself on the radio as F/V OHNO, only a couple of hours earlier. This buyer helped him arrange another place to sell fish, since he had no more room for any. Yet when Mrs. Smith called, she was told they hadn't heard from him, and then when the Coast Guard called, they got the same line. There's not a lot we can do about this failing of human nature, but a few things help: talk to a reliable person at each place, be as specific as we can about the description of the boat we're looking for, and make it clear that we'd like a call anytime with information about the boat.

From this story with its happy ending, we learned an inexpensive lesson about doing communications searches. Please take them seriously when you're tasked to do one. As one person in the above case pointed out, we're actually quite pleased if we can attain only a 78% Probability of Detection in an open ocean search, since the area is so huge; yet in the PreCom and ExComp stage, we're able to know with 100% certainty whether or not the boat is in our harbor. That's worth doing.

AIR STATION SITKA RESCUES TWO MEN STRANDED ON GLACIER

By: LT Rick Ehret, CGAS SITKA

On a clear, crisp mid-December afternoon, two experienced pilots embarked on a flight from Cordova, Alaska back to their home in Gustavus, Alaska, a small town approximately 40 miles west of Juneau in Southeast Alaska. They were returning in their recently restored Grumman Widgeon, a WWII-era twin-engine amphibious aircraft.

As they flew toward Glacier Bay the left engine began running rough. During the subsequent descent the right engine started to run rough as well and a decision was made to attempt a landing on an ice field rather than continuing further and risk having to land on the much more treacherous crevassed ice that is found nearer to Glacier Bay.

A successful landing was performed at 4:18 P.M., about one hour after sunset, with neither of the two men sustaining injuries. They were able to communicate with two commercial aircraft using their cockpit radio. They reported their position on the Grand Pacific Glacier and advised that they were well prepared to spend the night in the plane. District Seventeen RCC, along with CGAS Sitka evaluated the information provided by the men and decided that a morning recovery effort was the most prudent course of action. The men had reported having adequate survival equipment and food onboard.

The next morning, Wednesday, December 14, the wintertime Alaskan weather proved to be too great an obstacle. LT Andy Berghorn and LTJG Rocky Lee were able to negotiate their HH-3F helicopter from Sitka up through the hazardous inside passage and up Glacier Bay. But extremely low ceilings and reduced visibility accompanied by gusty winds

prevented the helo from making any appreciable headway up the face of the glacier. The rescue helicopter made numerous attempts to scale the glacier, shuttling back and forth between Gustavus for more fuel and returning to the face of the glacier in Tarr Inlet.

An HC-130 transport airplane from CGAS Kodiak was diverted to act as on-scene commander. It flew high overhead of the downed airmen. The crew of the Hercules was able to confirm the position of the Widgeon and established a communications schedule with the pilots. The stranded aviators stated they were in good shape and that the weather conditions were zero/zero at their position. They realized a helo retrieval was impossible in those conditions. As dusk approached, the H-3 and C-130 departed back to Sitka. Prior to leaving the scene, the C-130 coordinated with the two survivors what time to reestablish communications the next day and the men reaffirmed having adequate provisions, including a small stove to combat the cold.

The weather pattern persisted on Thursday and Friday and although the C-130 flew above the position of the downed Grumman craft the helicopters, despite repeated attempts, were unable to fly more than approximately two miles up the glacier, leaving the survivors about five miles away. Consideration was given to other options, including a land party rescue attempt. The vast network of crevasses, the unknown or tenuous reliability of snow bridges covering the fractured ice and the unpredictable weather all added up to eliminate a land party rescue effort as a viable alternative.

Throughout the ordeal the stranded Gustavus residents remained calm and in good spirits, rationing the dwindling supply of snacks and water. Naturally their discomfort grew with the prolonged stay in the cramped cockpit but they realized a rescue was dependent upon cooperation from the weather.

On Saturday morning such cooperation was forth coming and fortuitous scheduling provided LT Berghorn, LTJG Lee and their crew consisting of AD3 Carl Senft, AT3 Mark Haney and ASM2 Jeff Tunks with a second opportunity to recover the downed pilots. The weather was reported to be improved at the location of the aircraft. The helo crew navigated directly to the snow engulfed plane and quickly hoisted both men and their belongings. The hoisting evolution was a demanding, no reference maneuver made more difficult by near white-out conditions. The helicopter promptly exited the glacial ice field and transited back to Gustavus through rapidly deteriorating weather. The physical condition of the survivors was evaluated and they were delivered in fine health to an elated gathering of family and friends at the Gustavus airport.

The men recovered their undamaged airplane three days later from the Grand Pacific Glacier.

NOW, SET THE HELO RECOVERY BILL

By: LT Dane S. Egli, USCGC ATTU (WPB 1317)

You know it's going to be an interesting day when you are diverted in the midst of one SAR case to begin another. That's what happened to ATTU on 12 January when CG 6511 ditched in the Mona Passage (between Puerto Rico and Dominican Republic) due to engine failure.

ATTU was On-Scene-Commander and salvage platform for the first open-ocean rescue and salvage of an HH-65A Dolphin helicopter. A successful recovery was possible because of several fortunate factors: the speed and competency of AIRSTA BORINQUEN's response, close proximity of ATTU and other air resources, rapid arrival of the salvage team and perhaps most importantly, favorable weather conditions. The absence of any one of these could have jeopardized recovery efforts!

The INITIAL RESPONSE involved detection of the emergency, rescue of personnel and recovery of the liferaft. This incident highlights the importance of a 15 minute comms-check with a helo. ATTU had the radio guard for 6511 and logged OPS NORMAL and their POSITION at 0836. At 0840, we talked with the helo and at 0847, LOST COMMS after unsuccessfully attempting to obtain SAR info from 6511. Their MAYDAY was heard on CH 21 VHF-FM by an HC-130 (CG 1711) at AIRSTA BORINQUEN and the message was relayed to ATTU at 0850. When the wreck was located at 0902 (6.6 nm west of Mayaguez, Puerto Rico), ATTU was 15 nm to the north, searching the area of 6511's last known position. At a speed of 30+ knots, ATTU arrived on scene at 0930.

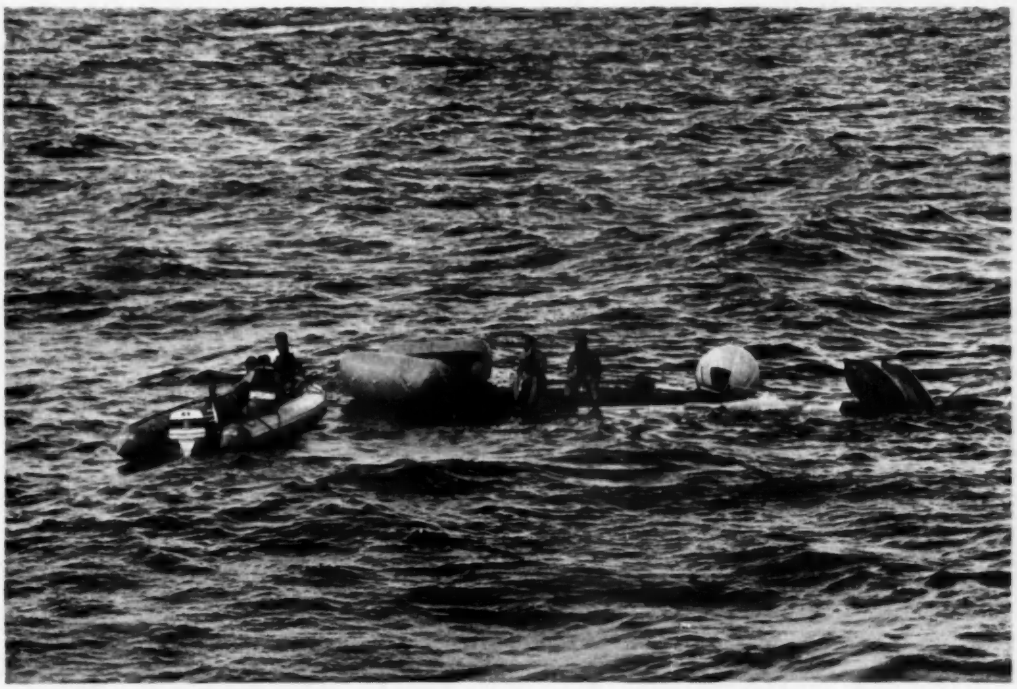
Before our arrival on-scene, the pilot, copilot and crewman had safely egressed into a liferaft and the aircraft rolled. Personnel and liferaft were brought aboard ATTU and EMT evaluation indicated no apparent injuries. At 1045, rescued personnel were airlifted by CG 6505 and transferred to the AIRSTA for medical evaluation and debrief. After flipping over, the aircraft remained afloat with three of the four installed float bags inflated and 8-10 inches of freeboard - it appeared stable with no risk of sinking. At this time, weather conditions were in

What was found upon Attu's arrival. Fortunately, the helo's crew had evacuated safely.

our favor with winds of 12 kts, seas at 2 ft and 6-8 nm visibility.

The ON-SCENE EVALUATION started by attaching additional flotation, followed by arrival of the salvage team, assessment of diver requirements and preparation of a salvage plan. On-scene water depth was nearly 1000' so our first concern after rescue of the personnel was attaching additional flotation and safety lines. We wanted to ensure preservation of the airframe regardless of any change in weather, air pockets or flotation. ATTU swimmers attached two additional float bags (1000-lb capacity) and two safety lines to the aircraft's tie-down rings - this provided an emergency bridle to rig a towline if the wreck started to submerge during initial salvage efforts. If conditions had deteriorated, we would have attempted to tow the wreck south, approximately 2 nm, to be in water depths less than 50'.

The AIRSTA's salvage team was onboard by 1205



Attu's RHIM comes alongside during salvage operations.

---

and their divers placed more flotation inside the aircraft cabin and removed loose gear from the interior (basket, pilot's bags, etc). The salvage team was most concerned the tail section would flood and threaten existing buoyancy, so we attached two large Together with the Salvage Officer, we prepared a recovery plan and implemented it with a combined AIRSTA/ATTU team. Since we were involved in a pioneer effort, it helped to use this as an on-scene checklist:

(a) Attach sea drogue/add maximum flotation.

(b) Place marker light/strobe on wreck.

(c) Remove rotor blades/attach sling.

(d) Evaluate whether to turn upright or not.

(e) Remove loose gear from interior of aircraft.

(f) Remove pyro and discharge/issue local BNM.

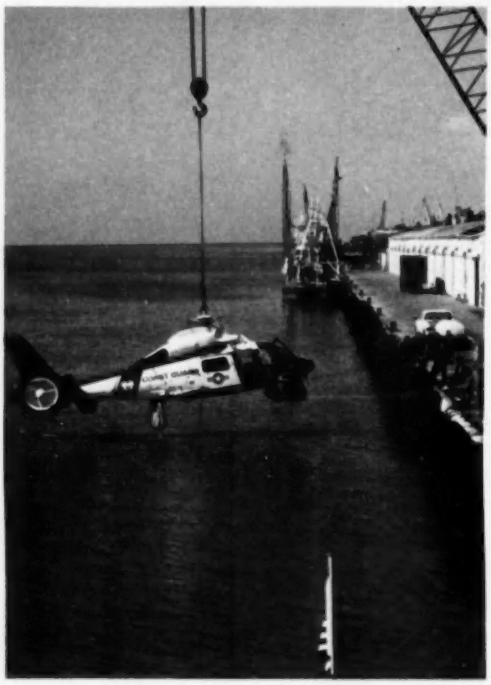
(h) Lower landing gear (if upright).

(i) Follow "Upright in Water" Checklist.

(j) Attempt tow (nose or tail first) at 1-3 kt.

(k) RHI escort tow to inspect wreck/flotation.

SALVAGE EXECUTION was the greatest challenge because it required rigging the tow and safely transporting the wreck to port. By 1400, winds had increased to 20 kts and seas were building to 3-5 ft. Given the limited daylight remaining, questionable weather conditions and the wreck was drifting west (now over 10 nm from Mayaguez), it was essential to begin towing the aircraft inshore as soon as possible...at least to shallow water...or inport (as long as the tow was working safely). By 1700, all rotor blades ($19,000 each) were removed and towed individually with the RHI and secured on ATTU's



Airborne for the last time, the 6511 is hoisted aboard a flatbed truck in Mayaguez.

main deck. (Note a surprise for many...rotor blades do float!) By now, the wreck had drifted to an area where water depth was 150 ft and a curious school of sharks were gathering to investigate. We decided to tow the aircraft inverted, rather than attempt to upright it at sea. Given on-scene weather conditions and the uncertainty involved with uprighting, we felt any change might risk damaging the aircraft or reduce critical reserve buoyancy.

For a towing bridle, we used 100 feet of 3-inch double- braided nylon, the ends attached with bowlines to the aft tie- down rings. We tied an eye in the center of that line to which a swivel shackle was connected and the towline was shackled directly to that. We towed the wreck with a 1000-ft towing hawser (connected 600' of 3-inch and 400' of 4-inch double- braided lines). Given the weather conditions, sea drogue used and towing rig, the optimum speed was between 2.5 and 3.5 kts - going slower than that reduced directional stability and faster caused the aircraft to roll dangerously and "submarine". The drogue provided a helpful sea-anchor effect, reducing yawl and forcing the catenary to absorb more of the stress associated with speed changes. The transit took five hours and required continuous speed adjustments, closely monitoring

catenary strain, SOA and aircraft stability. The RHI was deployed with AIRSTA and ATTU observers to inspect the towing connections and ride of the aircraft for the entire transit. We had one close call that could have rolled the aircraft, had the RHI not seen the fish floats snag on the tail section - we slowed while the RHI crew untangled lines fouled on the wreck.

The tow was transferred to the RHI for final approach and the aircraft was moored in Mayaguez at 2225. Liberal amounts of fendering were used and a small anchor placed in the channel to hold the wreck off the pier during tide/wind changes in the night. On the morning of 13 January, NAVY divers, AIRSTA salvage team and ATTU's RHI uprighted the aircraft without incident.

AIRSTA Borinquen reports that some of the avionics have been salvaged and overhauled for reuse, but the $3.5 million airframe didn't survive. To the surprise of many, including the manufacturer, the airframe material "absorbed" the salt water, causing a rotting effect within the honeycomb layers of the polymer composite. The H65 helicopter may be a hi-tech, computerized light-weight aircraft, but it is definitely not amphibious!

EPIRB 101 (BASIC EPIRBs)

By: LCDR Jonathan Embler, G-NRS-3

It is important for the individual using or considering the purchase of a distress beacon to understand how it will work for them. Another article in this issue of On Scene has briefly discussed the various types of distress beacons. Though beacon differences might seem subtle, they are vital in a distress situation.

Distress beacons are intended to be used as a last means of distress communication, ie. there is no opportunity to use the most prudent means of distress notification - two-way communications. With this in mind, I have developed scenarios using three types of EPIRBs in the same distress situation.

Distress Situation: You're one of four persons aboard a 50 foot boat anchored on the edge of a reef for bottom fishing. Swells have been running fairly high most of the day and the boat has been rolling uncomfortably. Suddenly an exceptionally large swell hits the boat broadside, and it rolls deep to starboard, burying its gunwales and causing all loose gear and crew to shift to starboard. This sudden weight shift is just enough to capsize the boat, throwing everyone into the water. The boat starts taking on water, and within ten minutes it sinks. One life jacket floats free to be shared among the four survivors. No other boats are in sight. Nearest land is fifteen miles away and the survivor that got the life jacket is a 250 lb tackle for the Washington Redskins.

How are you going to get help if you are one of the survivors? EPIRB, maybe? Do you have one? No? Um! Um! Yes, but it was in the forward cabin? Um! Um! Um! How much would you pay for a float free EPIRB right now? $150? $400? $2500? $1M? Just how long can you tread water? Probably not as long as the one with the life jacket. Sorry, you are not the 250 lb tackle.

To make things a little easier for you I'll give you a $150 Class C EPIRB. They are designed to be manually activated; so, somehow I've got to get it in your hands when you go overboard. Not an easy thing to do in this situation. But let's just say it is near the steering station and falls into your hands as you go overboard. Happens every day. You activate the EPIRB and wait for help to come. You're just barely within VHF-FM range from shore. Maybe the Coast Guard will hear your weak 1.5 second alert on the highly congested Channel 16. Maybe there is another boater within line of sight that religiously listens to Channel 16 for a Class C EPIRB alert. I doubt it, and even if it was heard it probably wouldn't be recognized. How many Class C alerts have you heard? The best that $150 EPIRB can do is give you false hope.

OK. I'm going to give you more credit and say you had the foresight to equip your boat with the Class A (float-free, automatically activated) EPIRB. Smart move. Now we don't have to stretch this story to get it into your hands. It floats free and activates as it was designed to do. So all you have to do is wait for the Coast Guard helo to pick you up. Let's get back to an earlier question. Just how long can you tread water? Long enough for the alert to get to the Coast Guard and the helo to get on scene, right? Not quite. Your 121.5 MHz alert will be relayed by satellite to the nearest RCC where on the average ten 121.5 MHz alerts are received daily. The source of these alerts is determined in only two or three out of every hundred alerts. Distress beacons aren't the only transmitters using 121.5 MHz. As an aviation distress and calling frequency 121.5 MHz can be quite congested at times. Unfortunately, the satellites cannot specifically relay only those signals coming from distress beacons. Any persistent signal can be relayed by the satellite as an alert. So unless that RCC receives a report from an overflying aircraft that has heard your signal, you're going to be treading water until the alert is verified by successive satellite passes and a resource gets on scene. It could take as long as two hours just to verify the signal is from a distress beacon. The Coast Guard

receives about 7700 121.5 MHz alerts per quarter. Of the 7700 alerts, only 220 are resolved and of these, only 14 are actual distresses. Your alert is one of those 7700 received. How is your confidence holding up? Getting tired of treading water?

Let's say the dim prospect of taking the life jacket from the tackle, the cramps in your legs and the effects of hypothermia on your mind are leading you to reconsider the value of a reliable EPIRB, and you would now gladly pay $2500 or even $1M for one. Well about $2000 - $2500 will do it.

You weren't penny wise and pound foolish, you paid the $2500 and have a Category 1, float-free, automatically activating, 406 MHz Satellite EPIRB. On top of that, you registered it with NOAA. When your boat sinks it floats-free and activates. The Coast Guard receives your alert along with the information you supplied NOAA for their data base. The Coast Guard can respond immediately to your alert because the satellites will only relay the coded 406 MHz distress beacon signal. They have your location within three nautical miles and can home on the additional 121.5 MHz homing signal being transmitted by your EPIRB. Within a couple of hours you and your friends are back at the Coast Guard Air Station wrapped in warm blankets and drinking a hot cup of "java". Later that evening you turn-in after a long, hard day; just you, your wife and snugly between you, your beloved 406 MHz EPIRB.

Status Report on Emergency Beacons

By: Mr. Dan Lemon, G-NRS-3

This article will intrigue SAR readers who like facts and figures. It attempts to summarize the current status of emergency beacons used for distress alerting, and to report progress on various initiatives to improve usefulness of these tools.

Fueled by COSPAS-SARSAT success, there has been a flurry of national and international activity to develop the field of distress beacons in recent years. Many government and private agencies have worked to improve 121.5 MHz beacons and to enhance abilities to handle and use alerts received in the troublesome 121.5 MHz band.

Potential for improving the effectiveness of 121.5 MHz beacons is limited; however, the current worldwide switch to development and use of new beacons operating in the 406 MHz band promises great potential making alerts via satellite more useful. Part of the 406 MHz frequency band is now dedicated globally for distress beacon applications.

The world appears to be on the verge of substantial growth in the numbers of 406 MHz beacons. There are roughly 2,000 of these beacons in service worldwide, with about 25,000 more expected to result from requirements of the International Maritime Organization (IMO) by 1999. While there are currently no 406 MHz beacons on the U.S. market, they are expected to be available within the next few months due to Coast Guard carriage requirements becoming effective.

COMMERCIAL VESSELS

The Coast Guard is primarily interested in marine use of beacons called Emergency Position Indicating Radio Beacons (EPIRBs), and has moved toward implementing carriage requirements for 406 MHz EPIRBs aboard commercial vessels. Owners of other vessels are also being encouraged to consider advantages of 406 MHz EPIRB use. To better understand the situation with commercial vessels, consider the following statistics:

a. Commercial fishing is the most hazardous U.S. industry. The Coast Guard handles about 3,000 fishing vessel SAR cases per year, about 85% of which are commercial fishing vessels.

b. Fishing vessel casualties have claimed about 80 lives per year.

c. The Coast Guard handles about 900 cases per year involving commercial vessels that are not fishing vessels.

d. About half of the commercial vessel SAR cases occur more than three NMs offshore; 20% are more than 20 NMs offshore.

e. The Coast Guard averages about 75 hours of search time for each overdue or missing case for which no alert is received. In these cases EPIRBs might have saved many lives, plus $millions in property and operating costs.

f. Most commercial vessel SAR cases are handled by aircraft with high hourly operating costs.

DISTINCTIVE BEACONS

Not all beacon signals can be processed via satellite. COSPAS-SARSAT was primarily designed to detect 406 MHz beacons, and can do so reliably. However, the system also attempts to detect 121.5 MHz beacons which were not designed for satellite compatibility; it does so with limited success due to 121.5 MHz beacon limitations, incomplete geographic coverage of satellite ground stations (not required for 406 MHz beacons), and extensive interference caused by non-beacon signal sources near the same frequency. Many 121.5 MHz beacons also transmit on 243 MHz, an international military frequency not processed by all COSPAS-SARSAT satellites. COSPAS-SARSAT cannot handle Class C EPIRB signals.

As discussed later, the Federal Communications Commission (FCC) has issued regulations that require signals with better satellite compatibility for newer 121.5 MHz beacons.

Following is a brief review of emergency beacon types.

EPIRBs

a. 121.5/243 MHz EPIRBs are the most common type. These beacons were designed to be detected by overflying aircraft, though less than 30 per cent of those activated are actually detected by aircraft, and usefulness of such aircraft alerts is limited since a position is seldom determined. Class A EPIRBs are float-free automatically activated beacons. Class B EPIRBs are manually activated, and similar Class S EPIRBs are intended for use with survival craft.

b. Class C EPIRBs are manually activated national beacons intended for use in coastal areas and on the Great Lakes. They operate on Channels 15 and 16. Their signals can be received by shore stations and other vessels. The Coast Guard will likely phase out these limited-service beacons in a few years.

c. 406 MHz EPIRBs, being adopted as a global standard by IMO, are designed for reliability and satellite compatibility. They provide accurate locations and coded SAR information. In the U.S., Category 1 EPIRBs are float-free and automatically activated. Category 2 EPIRBs are manually activated.

Emergency Locator Transmitters (ELTs)

a. ELTs are intended only for aeronautical use. Federal Aviation Administration (FAA) Technical Standard Order (TSO) C91 121.5/243 MHz ELTs (first generation), similar to EPIRBs of same frequency, are intended to activate during a plane crash, but have a generally poor record of reliability. TSO C91a ELTs (second generation) are improved, but few are in service so far.

b. A national 406 MHz ELT standard, similar to one existing for 406 MHz EPIRBs, is expected to be completed soon. 406 MHz ELTs have not been adopted yet for national use. They are expected to receive endorsement of the International Civil Aviation Organization (ICAO) in the future for certain international use.

Personal Locator Beacons (PLBs)

PLBs are being introduced in some countries. Their use is illegal within the U.S. except for a few special restricted cases. Some nations involved with COSPAS-SARSAT are considering possible future development of 406 MHz PLBs.

The FCC released rules on March 4, 1988 (PR Docket 87-133) that set signal coherency standards

for new 121.5 MHz beacons to improve satellite detectability. Based on summer 1988 tests run by the FCC, National Aeronautics and Space Administration (NASA) and Coast Guard on random EPIRBs and ELTs, most existing 121.5 MHz EPIRBs and ELTs either are not satellite-compatible or lack reliability because they fail to meet other required specifications. The FCC has issued a Public Notice and the Coast Guard has issued a Notice to Mariners on the results of these tests.

There are currently about 80,000 121.5 MHz EPIRBs in service, many as result of Coast Guard efforts begun in 1984-85 to encourage voluntary carriage. Voluntary carriage is expected to be allowed for about ten more years, except where phased out by 406 MHz EPIRB carriage requirements earlier.

NEW LAWS AND REGULATIONS

The following recent statutes combined require about 45,000 commercial fishing and towing vessels operating more than three NMs offshore to carry EPIRBs as prescribed by regulation:

1986 Coast Guard Authorization Act (P.L. 99-640)

Fishing Vessel Amendment (P.L. 100-424 (September 1988))

Commercial Fishing Industry Vessel Safety Act of 1988 (P.L. 100-540 (October 1988))

Under new laws and existing authority, the FCC and Coast Guard are responsible for the following regulatory actions:

a. FCC Report and Order released September 9, 1988 authorized use of 406 MHz EPIRBs subject to Coast Guard approval and FCC type acceptance.

b. Coast Guard regulations published August 17, 1988 (CG Docket 87 - 016) require commercial fishing vessels on the high seas (about 33,000 vessels) to carry 406 MHz EPIRBs after August 17, 1989 (date will likely be delayed about six months) unless they have a float-free 121.5 MHz EPIRB installed before October 3, 1988. Vessels will be allowed six years to change to 406 MHz EPIRBs if they already had an acceptable 121.5 MHz EPIRB installed.

c. Coast Guard Advanced Notice of Proposed Rulemaking which cleared the Secretary of Transportation on December 20, 1988 will essentially expand requirements for 406 MHz EPIRB carriage to include towing vessels, and all uninspected commercial vessels on the Great Lakes that sail more than 3 NMs from shore (about 12,000 more vessels).

d. Coast Guard regulations were published in a Notice of Proposed Rulemaking on January 30, 1989 that would require about 8,000 - 10,000 small passenger vessels to carry 406 MHz EPIRBs within six years of rules publication.

e. Coast Guard regulations being cleared at the Office of Management and Budget would require carriage of one or more 406 MHz EPIRBs by 1993 aboard about 500 merchant ships covered by the Safety of Life at Sea Convention.

FURTHER BEACON EFFORTS

The Coast Guard, National Oceanic and Atmospher ic Administration (NOAA) and the Radio Technical Commission on Maritime Services (RTCM) have been working with manufacturers and potential testing laboratories to help get 406 EPIRBs type-accepted and on the U.S. market.

Presently, there are about 230,000 of the old TSO C91 ELTs and about 600 of the new TSO C91a ELTs in service. The Interagency Committee on Search and Rescue (ICSAR) has been urging the FAA for years to stop new installations of TSO C91 ELTs, and recently Aircraft Owners and Pilots Association (AOPA) has joined in the appeal. The FAA claims a regulation project adopted in January 1988 will take at least two more years to finish. The FAA has developed a simple test for their field inspectors to use on a voluntary basis to check performance of existing ELTs.

The Radio Technical Commission on Aeronautical Services (RTCA) has about finished national 406 MHz ELT standards. However, before beacons built to these standards can be used in the U.S., the FCC must authorize use of 406 MHz ELTs, and the FAA must issue a TSO and approve specific units. The FAA currently has no scheduled rulemaking for 406 MHz ELTs, but say they would only allow 406 MHz units to be carried in addition to 121.5 MHz units. The RTCA standard will require incorporation of a full-power 121.5 MHz transmitter with the 406 MHz ELTs (primarily for homing) that will satisfy the FAA concern.

Use of PLBs is currently not authorized in the U.S., and no 121.5 MHz use is envisioned. The FCC recently warned one manufacturer to stop marketing an ELT for PLB use. NASA and the Department of Interior (DOI, National Park Service) have planned an experiment to see if controlled use of 406 MHz PLBs in national parks would be useful. The national mood appears to be one of strong combined interest and concern over potential PLB use. The potential exists to overwhelm both the satellite and SAR systems with alerts from these beacons. On the other hand, there is a recognized need for individuals involved in many different activities to have a reliable means of distress alerting, preferably using two-way communications.

M.A.R.I.S.

A working database for lifesaving.

By: Mr. William Laudeman, USCG Auxiliary

The Chattanooga Auxiliary is building a data base containing the essential characteristics of access points between roads and water. The program also provides valuable operational experience for Auxiliary and Reserves.

The data will be printed on file cards. These will be aboard Auxiliary Operational Facilities, given to Emergency Service groups, and to CGGru Ohio Valley.

Indexed by river mile and side, the cards will allow retrieval of the characteristics of any access point. This will allow the person assisting a distress case at a given river mile to decide where best to divert the vessel, or from where to launch an assist. The appropriate emergency services can be identified, and when called, directions to the selected meeting point will be available to the dispatcher.

The term "MARIS" was coined several years ago by (then) Flotilla 62 Commander Annabelle Laudeman as a group of Coast Guard Auxiliarists discussed a proposed program. The proposal was to develop an inventory of access points along the Tennessee River in the operational area around Chattanooga, Tennessee. "Maris" is the Latin word for "of the sea", and while Chickamauga Lake may not be a "sea" it is definitely large enough to provide room for many boaters to have problems!

The acronym stands for Marine Access Resource Information Survey, which is fortunately descriptive as well as catchy. The concept behind MARIS is somewhat more complex than first might be imagined. Perhaps it would be better to begin by telling of the event which triggered the idea for the project in the mind of Bill Laudeman, a Chattanooga Division Auxiliarist.

Late one afternoon at the peak of the recreational boating season, Bill was monitoring the Auxiliary's base radio at his home just west of Chickamauga Dam. The impounded Tennessee River above this dam forms a slack water lake some 59 miles in length. This lake is one of the most heavily used bodies of water in the inland system. There are hundreds of pleasure boats, and a few barge tows operating on its 55 square miles on a typical summer weekend.

A radio call to "Coast Guard!" was quickly answered by Group Tennessee River, and Bill listened to see if an Auxiliary unit might be needed.

The calling vessel was not in trouble, however; rather a passenger was suffering from a seizure caused by heat stroke or some other illness. Bill listened in discomfort as the skipper of the vessel indicated his lack of knowledge to the radio watch-

stander at the Coast Guard's Paris Landing radio center near mile 60 on the Tennessee River system. It was obvious that the skipper was not very familiar with the local area, nor did he have charts aboard.

With darkness approaching, the watchstander did something which you may find puzzling: he had the skipper run nearly 20 miles down the lake to the Chattanooga Coast Guard station at mile 472; while medical help was sent there to treat the convulsing victim.

During this run, the small cruiser passed at least ten places where an ambulance or paramedic unit could have been waiting. The victim might have been treated in fifteen to thirty minutes rather than the hour actually required. And the small boat's nervous skipper would not have risked the high speed run through twilight waters.

Was the Coast Guard radio operator at fault? Should Bill Laudeman have interrupted to suggest directing the boat to a nearby ramp or landing? The answer is "NO" in both cases. The watchstander knew that he could easily direct the neophyte skipper to the Coast Guard station (Chattanooga Moorings, home of the CGC Ouachita), and that the medical team could easily find the station as well. Bill Laudeman kept quiet because he knew only too well the potential problems in trying to coordinate the meeting of a boat and shore-side assistance at some obscure launching ramp.

In order to grasp the size of the problem, you must realize that three parties must share certain knowledge if we are to assure that emergency assistance will be available at any particular point along the (estimated) 400 miles of shoreline on Chickmauga Lake. Keep in mind the fact that a mistake can result in help being only a mile or two away by water, but as much as fifty miles away by land; on the "wrong side" of the Lake. In the case of a disabled vessel with injured persons, this could be a fatal error.

The three parties:

(1) The skipper of the vessel in trouble,
(2) the Coast Guard or other radio operator, and
(3) the local shore side dispatcher (medical, police or fire).

If any one of these persons cannot locate the point at which the vessel is to meet the shore-based service, the attempt to help will fail. Since these emergency events are relatively rare occurrences, it is not practical to insist that any of the three maintain intimate familiarity with the many access points to the river/lake. When you consider that (then) CG Group Tennessee River covered more than 1,000 miles of shoreline on several bodies of water, you can easily understand that radio watchstanders cannot know every possible access ramp, marina and dock.

Furthermore, unless the dispatcher at the local emergency service happens to be a bass fisherman or water skiing enthusiast, it is unlikely that he will have any idea where the "ramp at mile 505.5 left descending bank" is, let alone how to get to it by road.

Roads are, after all, the only way most ambulances, police cars and fire trucks have of travelling!

So the problem was not one of ignorance or poor procedure. The problem arises from a complex of communications, judgements, and decisions. All of which must be based on information. It looked like a problem that could be solved, but the solution had to take into account the real world.

The real world contains poorly trained recreational boaters without charts and lacking basic skills. It contains local emergency services manned by crews unfamiliar with the lake/river, and it includes a Coast Guardsman who has probably never seen the area in question, and is surely unfamiliar with all of the country roads and access points between the water and the land. A Coast Guardsman who is more than 400 river miles away from the scene of the problem.

MARIS was designed to make a physical inventory of every usable access between road and water. The inventory intends to provide each party with the data of greatest interest to that party. For example, the local emergency service can be told how to reach a specific ramp (or marina, dock, landing, etc.) by road. The details of street number or box number, and crossroad are available, as well as notes about the location of those points not directly on well known roads. If amenities such as paved parking area, telephone, or lighting exist, these are noted.

The availability of helicopter medivac services requires that overhead obstructions and clear landing areas are checked and noted for night and day operations.

From the Coast Guard radio watchstander's viewpoint, it is most important to know where the nearest access point is, based on the distress case's

location at a given river "mile". It is also important to know on which side of the river or lake the access is located. As pointed out earlier, it is useless to send a boat to a landing at some point along the shore, but on the wrong side for the land based emergency services.

Since it is usually the Coast Guard Group watch-stander who must locate and notify the needed assistance, it is vital that he or she have the telephone number of the nearest such required service to the specific access point. The radio operator or other CG personnel directing the vessel and the emergency services to a common meeting ground, must give both parties the information they need.

The skipper of the distress case needs to be given easily understood directions to the selected access point. Any information about the approach, landmarks and potential hazards must be communicated in terms useful to a possibly panicky and unskilled boater. This information is not indicated on inland charts.

The Chattanooga Division of the Auxiliary set out to gather the information needed by all three of these parties in order to facilitate the assist.

An analysis of the possible information was made, and a "data card" designed. (Example enclosed) After discussion and revision, a data logging form was set up to allow operating crews to record the vital statistics for each access point. (Enclosed)

The project was seen as an opportunity to do more than simply gather dry facts and figures. Chattanooga's "MARIS Program" was also to provide valuable operational exercise, communications drills and tests, and cross training with the local Coast Guard Reservists.

Over many months, fitted in between essential activities such as weekend safety patrols and SAR operations, Auxiliarists with surface facilities, land mobile radio facilities, and the base radio station worked together to check out each of the access points in the high traffic area from Chickamauga Lock and Dam (mile 471) to Opossum Creek (mile 490).

In completing the study, the Auxiliarists and their Reserve "students" harvested a crop of valuable lessons in multi-unit coordination, boat crew training, and communications network between fixed land, land mobile and vessel radio stations. One memorable weekend in late December provided some rough water and high wind boat handling drill for members of both groups.

When spray began blowing over the top of the thirty-four foot houseboat "mother ship" it was decided to abort the patrol. Fortunately the rear deck lookout on the houseboat seemed to enjoy the wet and windy ride .. or maybe he just felt safer out there where he could jump over the rail if necessary. Four Reservists and a couple of Auxiliarists discovered that, while you can't sink a pontoon boat, you can submerge the deck. The crew was mustered aft in order to keep the bow above the breaking waves. Nose high, Auxiliary vessel "Ducky" pounded some sixteen or eighteen miles upwind and brought her crew safely home; with their shoes full of cold lake water.

The problems encountered during the several MARIS patrols yielded important benefits; now we know some of the "dead spots" in our communications area. If a real emergency develops, we now know where to post mobile stations to relay radio traffic to vessels up river.

In some cases, it was found that we could not locate the medical or fire units serving a particular ramp. It is surely better to find out about this kind of "gap" now, than to wait until a real emergency calls for help at that particular point!

Charted accesses were found to be nonexistent, and accesses were located that did not appear on any chart or map. One well developed launching ramp was found to have less than a foot of water availiable more than fifty yards out; another could not be reached at some hours without first calling a Nuclear Power Plant guard to open a gate across the road.

Further development of the MARIS Program will include meetings with local police, paramedics and fire services including the local helicopter medivac operation. We hope to have Coast Guard Group Ohio Valley's participation to be sure that the finished product fills their needs. Eventually we plan to cover both banks of the Tennessee River from Nickajack Dam (mile 425) to Watts Bar Dam mile 530), plus several sole-state lakes and impoundments.

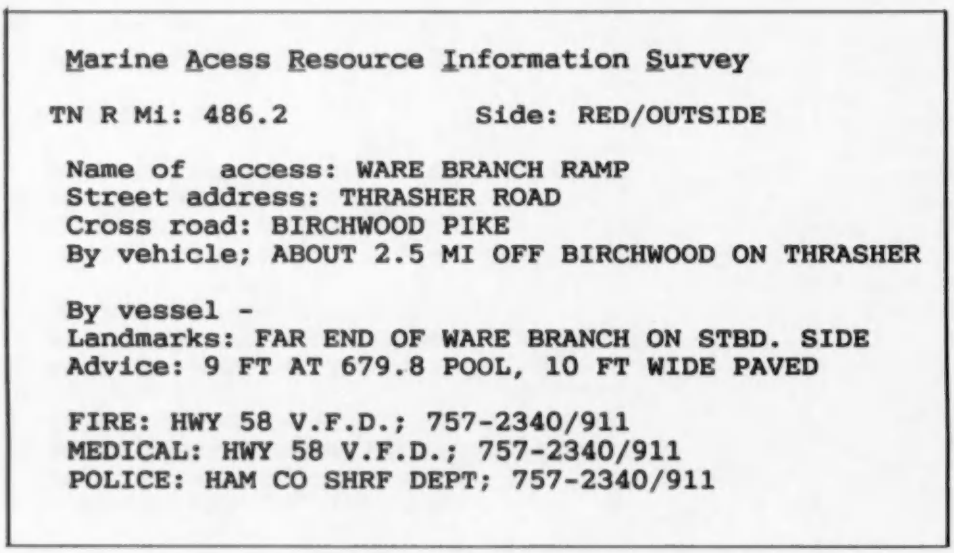
The finished data will be presented on file cards. One set will be put aboard each Auxiliary Operational Facility, another given to every local Emergency Service, and another for CGG Ohio Valley. Indexed by river mile and side, these cards will allow the user to retrieve the important characteristics for

any access point.

Conversely, with a vessel in trouble at a given river mile, the user can immediately know where to divert the vessel, or where to launch an assist. Local emergency services can be easily identified, and when they are called, a description of the selected meeting point can quickly be given to the dispatcher.

The MARIS program should be adaptable to any Auxiliary operating area which covers a long and sparsely populated shoreline. Inland or coastal, the problems shared by skipper, radio watchstander and emergency dispatcher are similar to those discovered by the Chattanooga Auxiliary.

Anyone who is interested in using the MARIS program and further developing the concept is cordially invited to join in. Write or call Bill Laudeman, DCP-VI: 1215 Clermont Drive, Chattanooga, TN 37415; (615) 875-9840.



Marine Acess Resource Information Survey

TN R Mi: 486.2 Side: RED/OUTSIDE

Name of access: WARE BRANCH RAMP
Street address: THRASHER ROAD
Cross road: BIRCHWOOD PIKE
By vehicle; ABOUT 2.5 MI OFF BIRCHWOOD ON THRASHER

By vessel -
Landmarks: FAR END OF WARE BRANCH ON STBD. SIDE
Advice: 9 FT AT 679.8 POOL, 10 FT WIDE PAVED

FIRE: HWY 58 V.F.D.; 757-2340/911
MEDICAL: HWY 58 V.F.D.; 757-2340/911
POLICE: HAM CO SHRF DEPT; 757-2340/911

A card typical of the type issued.

Coast Guard SAR "Bosses" Meet in Virginia

Pictured above are the Headquarters Search and Rescue Program Managers and the chiefs of Search and Rescue for each District. **Front row** (l to r) – CAPT Robbin F. Krause (D13 osr), CAPT Donnie D. Polk (D7 osr), CAPT Roland W. Breault (D1 osr), CAPT David Corson (D5 osr) and CAPT Michael B. Stenger (D17 osr). **Back row** – CDR William W. Pickrum (D9 osr), CDR Richard X. Engdahl (D2 osr), CAPT William E. Wade (D8 osr), CAPT Anthony J. Pettit (G-NRS), RADM Robert T. Nelson (G-N), Como Henry G. Pratt (National Commodore, CGAux) and CAPT Galen R. Siddall (D11 osr). (Not shown here – CAPT James T. Cushman (D14 osr).

District and Area senior SAR officers and OPCEN controllers met in Washington D.C. between 14 and 16 March 1989 to discuss a variety of policy issues and exchange views on SAR procedures and program initiatives. Others in attendance included representatives from the CG Research and Devel opment Center, Operational Computer Center, SAR School, International Ice Patrol, GANTSEC and the Air Force Rescue Coordination Center. This 3-day conference provided the first opportunity in nearly a decade for all the Coast Guard SAR leaders to meet as a group to discuss problems of mutual concern. The event proved to be very successful. All those that attended agreed that future gatherings of this type should be scheduled at least every other year. Minutes of the conference will be provided to everyone that attended.

RESPONDING TO MARINERS REQUEST FOR INFORMATION

By: Staff, GNRS-2

Ed. Note: The following is an excerpt from the recently released Group and Station Communications Watchstander Qualifications Guide, COMDTINST M16120.7. It gives a good explanation of the often misunderstood policy concerning handling requests for information from mariners.

GENERAL POLICY:

As a matter of policy, the Coast Guard may respond to requests for information, including navigation. In the field there is a perception that passing of navigational information is discouraged because of the potential for liability. This perception is not grounded in Coast Guard policy. Rather, certain types of navigational information may be passed if it is accurate and reliable. The guiding principle is that the Coast Guard will not assume responsibility for navigating a vessel, but it may provide the master of a vessel certain navigation tools if available as charted or published by a reputable source. Additionally, the Coast Guard's primary duties include serving the public in such areas as Search and Rescue, Aids to Navigation, Boating Safety, Maritime Law Enforcement, and Marine Environmental Protection. As a result local Coast Guard units have quite naturally become a public center for marine information, both in collection and dissemination. There are various types of marine information that may be appropriately passed to the mariner via the radio. Information affecting the safety of navigation will be given an immediate response. Other types of information, usually for the convenience of the mariner, may be passed if it does not interfere with operations. In all situations, the standard to follow is to make sure any information passed is prudent and based on fact, and never on opinion or conjecture. Another very important fact to consider is that while a mariner may only be requesting information and has not declared a distress, the vessel situation may dictate more active involvement by the SMC as a precautionary measure.

NAVIGATIONAL INFORMATION

General: An effective guideline is that any printed information from a recognized source may be passed. This includes any information from current NOAA nautical charts, Local Notice to Mariners, Light Lists, Coast Pilot, etc.

BEARINGS:

In situations involving safety of navigation, bearings between charted objects may be provided, either in degrees true or magnetic. In contrast, compass courses, because of the unique aspects of deviation, wind, and current, should never be given. When a bearing between buoys is provided, the mariner should be be advised that this bearing was obtained from the buoys charted position which could be different than the actual location. This is not a disclaimer, it's an example of prudent advice. It should be pointed out to the mariner that this "bearing" is <u>not</u> a (compass) course to steer. If a compass course to steer is specifically requested, the mariner should be told that **"due to the unique aspects of deviation, wind, and current, an accurate compass course to steer for your vessel can not be determined or calculated over the radio".**

LOST/DISORIENTED:

Finding a lost and disoriented boater without reference points is difficult and often impossible without radio direction finding equipment. A good practice is to ask the mariner questions regarding any nearby landmarks, aids to navigations, depth and color of water, etc. This can go far in determining the mariner's location. If the vessels general location can be ascertained, an appropriate response might be:

"Based on the information you have provided, your vessel appears to be in the vicinity of _____. We recommend you study the chart for that area or consult with a passing vessel before proceeding further."

Depending on the situation on a lost or disoriented boat, especially considering the size of the vessel,

and age and health of those on board, a Coast Guard vessel response to locate the vessel before a distress incident evolves may be the most prudent course of action. An alternative not involving a direct Coast Guard response would be to suggest to a lost or disoriented mariner that he or she consider anchoring their vessel if the on scene conditions safely permit.

Although many Coast Guard shore facilities have VHF-FM direction finding equipment, the accuracy of this equipment is quite crude, often with a bearing error of +/- 15 or more degrees. Some boaters if they are lost may request a "DF" (direction finding) fix. In this situation, the mariner should be told that the Coast Guard does not have the capability to provide a "DF" fix. If the mariner inquires how we could find him in an emergency, the master may be told most Coast Guard rescue craft have VHF-FM direction finding equipment that could be used to home in on his/her location.

Hazardous Bars and Inlets: A situation where extreme caution is necessary involves requests for advice to enter an inlet or cross a breaking bar during hazardous weather conditions. It is the Coast Guard's position that safe navigation is the responsibility of the vessel's master and not the Coast Guard's. Given the large number of factors bearing on these types of situations, there are no hard and fast rules. Generally, if the vessel is presently not in danger, it may be recommended to the master that they stay out and do not attempt to enter port until the weather moderates. "When in doubt, stay out" can be good advice. If the master elects not to heed the advice, or for whatever reason does not believe staying out is a viable alternative and decides to put the vessel in a hazardous situation, then the case may be treated as a distress and consideration given to the dispatch of appropriate available rescue resources. In this circumstance, an SMC may also consider a precautionary vessel escort. Other alternatives in this situation also include a vigilant communications schedule with the vessel until they are out of harms way.

Navigational Information Request Case Study:

Not all boaters requesting navigational information are lost or disoriented. Their needs are often simple and capable of being resolved by providing sound, prudent information. The following case study illustrates this type of situation.

A boater unsure of his location calls a Coast Guard station requesting a course to steer into a local harbor. Visibility is about 200 yards and he can see a buoy but does not know what it means. Can the watchstander provide a compass course to steer? No! But the watchstander may provide other useful navigation information. A first step may be to ascertain as precisely as possible the mariners position. Upon request of the communications watchstander, the boater describes the buoy as a "red-and-white vertically striped" buoy with the same initials as the sea buoy for the main channel into the stations location. Now confident of the location, the communications watchstander could provide the mariner with the following navigational information concerning the local harbor:

"The buoy you have just described appears to be the (local name) sea buoy located approximately one mile off the (local name) harbor entrance, marked by two parallel piers of equal length extending 150 yards out from the shore line. The channel width is approximately 200 yards. On the north pier stands a 55 foot high white tower with a white 6 second light and a fog horn that makes one blast every 30 seconds. At the head of the South pier, sits a 25-foot pole with a 4 second red light atop the structure. Stone rip-rap surround the base. Depth of water in mid-channel is 24 feet."

Note: All of this information is located in the Coast Pilot, Light List and the current local chart of the area. Should the mariner insist on a compass course, advise him that that information can not be provided due to the unique deviation characteristics of his/her own vessel, and follow the guidance in paragraph B. above. The point here is to illustrate that, indeed, navigational information may be passed and done so with confidence and without risk of any liability to the Coast Guard. It is important to remember that passing accurate and available navigation data may provide useful assistance to the mariner to help avoid becoming a future distress case.

PASSING WEATHER TO THE PUBLIC

Forecast Weather: Inquiries from the public regarding weather information should be handled in a courteous manner. If the request was received via the VHF-FM radio, the mariner should be advised that the National Weather Service makes continuous local weather broadcasts on the VHF-FM radio. The mariner should then be told the local frequencies or channels. If the mariner does not have the receiver capability, the latest NWS Local weather

warnings (small crafts, gales, etc.) may be read over the radio on request, operations and time permitting. Ensure that the entire text is read exactly as written including the period and geographic area for which the forecast is valid.

Actual Weather Conditions: Actual observed conditions of wind direction/velocity, visibility, cloud cover and sea height may be relayed to the mariner. Observations made with a calibrated weather instrument may be reported as is; all other observations should be reported as "observed." Whenever weather conditions are reported, the date, time, and location of the observation should also be included.

PASSING THIRD PARTY RADIO TRAFFIC

General: The Coast Guard is not a marine operator, and as a matter of policy refrains from competing with commercial interests. Therefore, the Coast Guard usually does not pass third party radio traffic over the marine radio. This does not, of course, preclude emergency situations or passing requests for assistance for non-distress incidents as per COMDTINST 16101.2B, "Maritime SAR Assistance Policy." If the request is to contact local marine service personnel and it is known that these services monitor a particular VHF-FM frequency, it is appropriate to pass that frequency or channel. If in doubt as to the nature of the request from a member of the public, a superior should be consulted.

HANGING ON TO SAFETY

By: CDR C. M. Stone, G-KSE-2 and LT P. M. Keane, G-NRS-2

A WMEC was conducting motor surfboat (MSB) operations in a somewhat protected operating area as part of underway indoctrination training. As the MSB was being hoisted to the 01 deck rail to disembark the 9 people aboard, the MSB's stern suddenly fell 19 feet to the water with the boat hanging by the forward falls nearly in a vertical position. All personnel, as a standard safety procedure, were using the installed manropes during hoisting. Four personnel were unable to maintain their hold on the manropes and fell into the water. The MEC's rigid Hull inflatable boat (RHI) was already under way conducting boat operations and retrieved all personnel in the water within four minutes. After ships personnel examined the MSB to assess damage, they successfully re-attached the aft falls and hoisted the MSB to the cradle. No personnel sustained any significant injuries and repair of the MSB was non-structural fiberglass work.

"One hand for the ship and one hand for youself." Paying heed to this old adage by holding on to the manropes, prevented possibly serious injury to a number of personnel.

An initial question in this mishap is how could the bail on the aft fall slip out of the hook on the releasing gear. Normally, it can't, unless there is some deformity in the releasing gear. Since there was no evidence of problems with the releasing gear, the only explanation is that it was never secured properly.

In this particular incident, the primary cause of the mishap was inexperience combined with lack of attention to detail, and to some extent, cutting corners. The boat had not been used on a regular basis and key people were not as familiar as they should have been with equipment and standard procedures. Corners were cut. Waivers were given to relatively inexperienced people. Those people in turn were put in a position to train other inexperienced people. Normal procedures were circumvented for expedience.

There are times when corners can be cut, such as emergency situations, when well trained, experienced people can be counted upon to do their jobs automatically. The training environment, however, is no place to cut corners.

The MSB has served us well over the last 15 years or so, and in the right hands, it is still a capable boat. The boat is not without its shortcomings. It's a dinosaur compared to the RHIB, and much more difficult and labor intensive to launch even in relatively calm waters. Consequently, the boat of choice has become the RHIB.

Launching and retrieving the MSB can be dangerous. It requires discipline, teamwork, supervision and an eye toward safety. Members of the boat crew and boat handling detail are transferring in and out constantly. Unless the boat is used regularly or boat drills held often, proficiency in launching and recovering this boat declines rapidly, and the more dangerous the evolution becomes.

While there are no official, written, standard guidelines on launching and recovering the MSB, there are certain commonly accepted procedures which will keep you out of trouble.

In most cases, it takes a minimum of 8 people to properly and safely launch the MSB. These include: The safety observer, usually the 1st LT; deck supervisor, normally a senior BM; davit operator; upper and lower frapping line tenders, two each; and some one to tend the sea painter. In some cases, depending on where the boarding party embarks, a second, subordinate supervisor may be needed to coordinate efforts on different deck levels.

The supervisor must be *in charge*. This is where discipline comes in. No matter how many times the "old hands" may have been through the routine, they must do nothing until the supervisor gives the signal. With nearly three tons of boat swinging free, there's no room for anyone to be "doing their own thing".

Communication must be maintained between the bridge and the deck supervisor and between the supervisor and the coxswain. Absolute silence must be maintained. The only voices heard should be the supervisor's and the coxswain's. To avoid possibly distracting the attention of the supervisor, the safety observer should say nothing unless he sees something the supervisor has obviously missed. Permission should be asked from the bridge to lay into the boat and to lower away and launch. Throughout the evolution, standard commands and replies should be used.

Once the boat is waterborne, the coxswain is in charge. He or she gives the command to let go or hook and to release and retrieve the sea painter. Again, it is important that standard commands are used and standard replies received. It is the coxswain's responsibility to double check everything by visually confirming the command has been executed, even if the expected reply was given. When returning to the ship, the coxswain should request permission from the bridge to come alongside. Permission should only be given when a "manned and ready" is received from the deck supervisor.

On most MSBs, a small lanyard has been fitted to retain the releasing gear handle in the closed position. Once the command to let go has been executed, and the weighted fall safely pulled clear, the bow and stern hooks should automatically secure the handle in the closed position with the lanyard. The coxswain should do a visual check to ensure this has been done. In this mishap, it wasn't done.

Another question arises on how well the hard hat, commonly worn by shipboard boat crews, is providing protection during the boat handling operations. One of the four who went in the water, let go only after his head hit the side of the vessel. Other than a slight headache he escaped without injury. The Rescue and Survival Systems Manual COMDTINST M10470.10B, requires use of motorcycle-type helmets for boat crews under certain conditions. It may not be practical to keep enough of the motorcycle helmets around for everyone embarked in the boat, but in a training environment, it may be wise to have all personnel wear hard hats *with chin straps in place*. In this instance it may have saved someone a headache.

☆ U.S.GOVERNMENT PRINTING OFFICE:1989-617-000/03673

Dear On Scene Editor,

Commandant (G-NRS-2)
Editor, ON SCENE
U.S. Coast Guard Headquarters
2100 Second Street, S.W
Washington, D.C. 20593

Fold on line. Seal with tape.

The deadline for submitting articles to appear in the next issue of ON SCENE is 14 JULY 89. Please try to keep them under three pages if at all possible. If you submit an article for publication and have it typed on the standard terminal, it will save us typing time. Copy the submission on a 5-1/4" or 8" floppy disk and mail it with a printed copy. Pictures are most welcome. Please tell us if you wish the disk to be returned. Arrangements can also be made to accept articles over a modem.

U.S. Department
of Transportation

**United States
Coast Guard**

2100 Second St., S.W.
Washington, D.C. 20593

Official Business
Penalty for Private Use $300

Postage and Fees Paid
United States
Coast Guard
DOT 514

Standard Distribution -128

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
A	3	3	3	3	3	3	1	3	2	2	1	1	3	3	1	1	1	1	1		5	1				
B		5	25	1	25	10	40	10	3	2	2	1	2	10	1		1	20	1							
C	5	6	1	3	1	1	1		5	1		1	1		2	1		1		1			1			1
D	1			3		1		3		1	1	1	1								1	2		2		
E										1	1	1		1	1											
F	1	1	1							1	1		1													
G	1																									
H																										

Non-Standard Distribution: List CG-39